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THE

RICHMOND & LOUISVILLE

MEDICAL JOURNAL

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VOLUME XVI.

THE LARGEST MEDICAL MONTHLY IN AMERICA.

LOUISVILLE, KY.

HULL & BROTHER, PRINTERS AND BINDERS,

1873.

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THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. JULY, 1873. No. 1.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—CASE OF INDUCTION OF PREMATURE LABOR FOR CONTRACTION OF THE PELVIS. Reported to the District Medical Society of Bergen County, New Jersey, October, 1872, by CHARLES HASBROUCK, M. D., Hackensack, N. J.

In February last, by the advice of Prof. T. G. Thomas, M. D., of New York, I resorted to premature artificial delivery, as a prophylactic measure, in a case of contracted pelvis. The case is interesting, both on account of the rarity of the physical condition rendering a resort to this procedure necessary, and also as an illustration of the great value of this resource in obstetrical practice. I have, therefore, prepared a report of the case for the Society.

In a paper on "The Induction of Premature Delivery as a Prophylactic Resource in Midwifery," published in the "New York Medical Journal" for February, 1870, Prof. Thomas, in speaking of cases of contracted pelvis, makes the following declaration: "I take the position that so safe is the premature

and artificial delivery of a child at the eighth or eighth and a half month of utero-gestation, by our present methods, that *it should be preferred to delivery by the forceps at the tenth menstrual epoch.* But under these circumstances the necessity must be established, *not by measurements, which do not display slight contractions; it must have been proved by past experience with the particular patient whose case engages attention.*"

That the Society may be able to form an intelligent judgment as to the propriety of this practice in the present case, when tested by the above rule of Dr. Thomas, I beg leave to preface my report of the case by a concise history of the previous labors of the same patient—my information as to her first labor being derived exclusively from her own and her husband's narrative.

In November, 1870, the Rev. Mr. H. called at my office to engage my services in his wife's approaching confinement. On inquiry, I learned that Mrs. H. was about thirty-six years old, of robust constitution, and of uniformly vigorous health; that the present was her second pregnancy; that in her first pregnancy she was delivered at full time, after a protracted and very severe labor, the delivery being finally effected with the forceps with great difficulty, and after repeated failures from the slipping of the instrument; and that the child—a female weighing seven and a half pounds at birth—was so cut and injured by the forceps that its recovery was deemed impossible, but ultimately rallied, and was then a robust girl three years old.

On further inquiry as to the cause of the difficulty, I could only learn that the child's head lay high up, so as to make it difficult to reach and grasp it with the forceps, and was brought down only after powerful and protracted efforts by two practitioners acting alternately. I was also informed that the perineum was slightly lacerated, but healed kindly; and that the woman had a good "getting-up," the only unpleasant symptom being a severe pain in the right instep, which came on some three weeks after her delivery, and was so violent as to require

the hypodermic use of morphia. This pain continued for several weeks, but finally disappeared gradually.

January 29th, 1871, at 4 o'clock A. M., I was called to see Mrs. H., who was then, and for six or eight hours had been, in labor. Her pains were frequent and apparently severe. On making an examination, I found the uterus so high up as to be reached with difficulty, but by pressing my fist into the perineum, I found the os uteri dilated to the size of a half dollar, and the vertex presenting. Its position I could not then determine.

Four hours later—or at 8½ o'clock A. M.—the pains continued frequent and severe; the uterus still very high up, without the least tendency to dip into the pelvic canal. By passing my hand partly into the vagina, however, I found the os fully dilatable in the absence of pain, but contracting somewhat when the pains came on, and the vertex presenting in the left occipito-acetabular position—or the first presentation of Baudelocque.

In making this examination, notwithstanding all my care, the membranes gave way, and the waters were discharged. But as the os uteri was quite dilatable in the absence of pains, and the first stage of the labor apparently nearly complete, I confidently expected that the uterine contractions would soon change and become expulsive in character, and the labor proceed more rapidly. But in this I was disappointed; the pains, after two hours more, remaining frequent and severe, but without any apparent efficiency, or the least expulsive or bearing-down tendency.

The patient having now been in labor for twelve hours or more, began to beg for chloroform and the forceps, declaring that she knew from her own feelings that she was then just as she had been in her first labor, and that the child would never be delivered without assistance. But as there was no actual deformity of the pelvis, no undue projection of the sacral promontory, nor any degree of contraction of the pelvic canal appreciable to the touch of the ordinary practitioner, I did not yet apprehend any serious difficulty, but regarded the delay as

being due entirely to a lack of vigor and efficiency in the uterine contractions. In this, however, I was no doubt mistaken. From subsequent developments in the case, it is evident, I think, that this apparent inefficiency of the uterine contractions was due, not to any lack of uterine vigor, but to the elevated position of the child's head above the superior strait, and the consequent absence of the conditions necessary to the development of the reflex actions by which the voluntary muscles are brought into play. For, afterwards, when the vertex was brought down by the forceps so as to distend the os uteri and upper part of the vagina—parts which are more richly supplied with nerves from the cerebro-spinal system—the reflex functions of the spinal cord were at once excited; the voluntary muscles brought into immediate action, and the pains became powerfully expulsive.

At 12 o'clock M. no change having occurred in the character of the pains, nor in the position of the fœtal head, at my request Dr. Quimby, of Jersey City, who happened to be on a visit in the village, visited the patient with me, and to his efficient assistance in the further management of the case I am greatly indebted. The patient had now been in hard labor for fifteen hours, and began to show evidence of fatigue. The fœtal head could be rather more easily reached; a fact due, in a great measure, to increased tumefaction of its scalp. But the vertex was still high above the upper strait, without any tendency to engage in the pelvic canal.

Under these circumstances the propriety of delivering by podalic version was discussed; but in view of the contracted condition of the uterus (the waters having been drained off some hours already) it was deemed doubtful, even if the introduction of the hand were possible, whether the version could be effected without endangering the integrity of the uterus, as well as the life of the child. Besides, even if the version could be accomplished, should any great disproportion exist between the size of the fœtal head and the pelvis, the forceps might yet become necessary, while its application would be made still

more difficult. Finally, it was concluded to watch the case for a while further, in the hope that the child's head might become moulded to some extent to the pelvic inlet, and thus be brought within more easy reach of the forceps.

At 2½ o'clock P. M., pains continue of the same frequency and severity, but without the least expulsive or bearing-down tendency; the vertex seems slightly more advanced—probably from increased tumefaction of the scalp—but has not engaged in the superior strait. It was now evident that the delivery would never be effected by the natural efforts. The woman was therefore placed in proper position and brought under the full influence of chloroform, when, by my request, Dr. Q. applied the long forceps, passing the blades as high as it was possible, so that they locked quite within the vulva. Traction was then made for several minutes with each pain, and the child's head seemed about to engage in the pelvic canal, when the blades began to slip, and the head in a moment receded to its original position. The blades were again and again applied, but invariably with the same result, the head receding *abruptly* each time, in spite of my utmost efforts to retain what had been gained, by firm pressure upon the fundus uteri.

I then applied the forceps myself several times, passing the blades as high as was possible, and locked the instrument, but each time with the same result. My forceps is of the usual length, and was made for me after the pattern of forceps used by the late Dr. R. K. Hoffman, of New York. It is certainly as long as any that I have ever seen, except Ritgen's forceps, which at that time I did not have. Having thus failed with my long forceps, I procured another of Dr. Elliott's pattern, and this was also applied several times by Dr. Q. and myself, but with the same result.

I now despaired of effecting delivery without lessening the size of the fœtal head; but Dr. Q. suggested that before we resorted to this revolting procedure we should make one more attempt with the forceps while the patient was fully conscious, so as to receive the assistance of her own voluntary

bearing-down efforts; to this I assented. The anæsthetic was withdrawn, and my long forceps again applied. Then, when the patient had become entirely conscious, Dr. Q. again made tractions with each pain, while, with my hands spread over the fundus uteri, I made as strong pressure as I could. The vertex was thus again brought down until it seemed about to engage fully into the superior strait, when, for the first time in the whole labor, the patient began to bear down. Keeping what had thus been gained, by steady support in the intervals of pain, and renewing traction and pressure with each pain, the head was gradually brought fully within the pelvic cavity, our efforts being very materially assisted by the constantly increasing violence of the patient's bearing-down efforts. The blades of the forceps were then unlocked and reäpplied, so as to grasp the fœtal head more fully and properly, and at 6¾ o'clock the delivery was accomplished without further difficulty. The uterus contracted well; the placenta was expelled; the soiled clothing removed; and the patient placed in bed, much exhausted by her protracted and severe labor. Fortunately no material injury was done to the maternal organs, care having of course been taken to keep the bladder and rectum empty; and the patient convalesced slowly with but few serious symptoms. Some weeks afterward, when she began to go about the room, pain in the instep, without redness or swelling, again came on, as in her first confinement, continuing several weeks, and leaving her gradually. The child, a male, was dead, of course. It was a very large child, as large, I think, as any I ever saw at birth. Unfortunately, in the confusion, it was not weighed, but it was estimated by those present to weigh from twelve to fourteen pounds.

In reviewing the history of this case, although there was no deformity nor lack of symmetry of the pelvis, nor any contraction appreciable to the touch, yet it was evident that there existed some physical obstacle to the passage of the child. In cases of this character, where the disproportion between the fœtal head and the pelvic passages is not excessive, it is, I be-

lieve, the orthodox rule of practice to deliver by podalic version, provided the conditions—of uterine relaxation, etc.—essential to the successful introduction of the hand, and turning of the child, are present. This procedure was suggested by me in the present case before the forceps were employed. What would have been the result if it had been adopted, it is, of course, impossible to say. And in view of all the circumstances, I determined, should the necessity ever arise, to submit the case to the judgment of a professional expert, for the purpose of deciding whether *premature* artificial delivery or delivery by podalic version *at term* should be resorted to.

I did not have long to wait. On the 13th day of July, 1871, Mrs. H. informed me that she had passed a week over her usual menstrual period, and feared that she was again pregnant. As her general health was good, with the exception of slight constipation, I simply prescribed an aloetic tonic, and awaited developments. A month later, morning sickness, etc., left no doubt as to the existence of pregnancy; and when she was five months advanced, I had her to consult Professor Thomas.

After making a careful and thorough examination, Dr. Thomas decided that while there was no *relative* deformity, the pelvis was contracted in all its diameters. He expressed it as his decided opinion, that a full-sized male child could not be delivered at full term through her pelvis with safety to either mother or child; and in the interest of both he advised me, by all means, to resort to premature delivery at the eighth month. To this advice Mr. and Mrs. H. readily assented.

Mrs. H. had menstruated last on June 6, 1871. By Dr. Gooch's mode of computation, which I have generally found reliable, this would bring the last of the eighth month of pregnancy on the 12th of February, 1872. Accordingly, at 10 o'clock P. M., of that day, I passed a No. 12 elastic catheter within the os uteri, and between the membranes and uterine walls, to near the fundus, separating the membranes by a sort of wriggling movement as it passed along. This operation was entirely painless, the instrument apparently dropping in, as in

catheterizing the bladder. The only difficulty I had in accomplishing this safely, was in the great depth of the perineum, and the elevated position of the uterus above the superior strait. It did not sink into the pelvis, as is usual with women of capacious pelves in the last months of pregnancy. Having introduced the catheter, I allowed it to remain, cautioning the patient to remain quietly in bed.

February 13th, 10 *o'clock A. M.*—This morning the catheter had dropped from the vagina. Mrs. H. jocosely insisting that the baby had kicked it out, as it had shown unusual activity in its movements since its territory had been invaded. There is a slight "show," but no pain. I allowed the patient to get up, and did not replace the catheter.

10 P. M., patient has had an occasional slight pain, evidently uterine, since noon.

February 14th.—The patient slept well all night, and is free from pain while lying down, but has an occasional pain, recurring at long intervals, when up. At 10 o'clock P. M., on making an examination, I found the cervix uteri softer than at first, the os being slightly patulous. Not feeling well myself, I postponed any further interference until morning.

February 15th, 9 *o'clock A. M.*—Mrs. H. has slept well during the night, but has had a few pains this A. M. Os uteri more easily reached, and sufficiently open to admit the tip of my finger. I now passed the female nozzle of one of Davidson's syringes into the os, and injected against the membranes a gallon or more of water, a little more than blood-warm. While doing this several pains, quite severe in character, came on. At 1 o'clock P. M. the pains became more frequent and regular, and about 3 o'clock P. M. the waters were discharged. At 6 P. M. the os dilated to the size of a silver dollar, vertex presenting, the uterus, unlike in her previous labor, dipping down into the superior strait.

From this time the labor proceeded rapidly. The os uteri soon became dilated, the pains became powerfully expulsive, and at $8\frac{3}{4}$ o'clock P. M. the patient was delivered of a healthy-looking boy,

weighing, when naked, seven pounds. Its sutures were loose, nails soft, and every appearance indicated lack of maturity. It breathed feebly at first, but within an hour respiration was fully established, and it cried lustily. In a few hours it took the breast and drew well; but from some natural defect of the breasts probably, no milk could be drawn by child or nurse. The child was therefore necessarily fed from the bottle—pure cream and water for a few weeks, and afterwards cow's milk and water after the usual formula. On these the child thrived well, and notwithstanding a troublesome summer from diarrhœa, is quite as well as most bottle-fed children.*

As to the best method of accomplishing premature artificial delivery in the cases in which this measure may become necessary, my own experience, being confined to but three cases, is too limited to warrant me in expressing a positive opinion. I would, however, simply suggest to the Society, that in this, as in every other department of practice, it seems rational that we should, as far as is practicable, always endeavor to imitate the natural processes.

In the commencement of labor at term, the os uteri, practically speaking, is closed; and in most cases it requires several hours of severe pains to accomplish its dilatation, with the bag of waters unbroken. The first step in the process of premature artificial delivery, therefore, should be to excite the uterus to contraction, and, if possible, without rupturing the membranes. Afterwards, if it becomes necessary, measures may be adopted to dilate the os. But in the absence of chronic organic lesions of the cervix and os, I apprehend that there are but few cases in which a resort to artificial dilatation is necessary, provided the uterus can be made to take on premature action.

* At the present time (April 21, 1873,) the child continues to thrive, and has every prospect of being successfully reared.

ART. II.—REMARKS ON GRAVES' DISEASE. By JOHN A. OCTERLONY, M. D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in the Louisville Medical College; Member of the Medico-Chirurgical Society, Louisville; Member of the Louisville Obstetrical Society, and Corresponding Member of the Gynæcological Society, Boston. [Read before the Medico-Chirurgical Society of Louisville.]

In presenting the following paper to this Society, the writer has desired to embody the results of his readings on an interesting subject, and to record his limited observations of a complex and unmanageable disease. The study of Graves' Disease is of both physiological and pathological interest, and the unsatisfactory state of therapeutics in connection with it justifies every contribution to it, even if no new facts or theories are brought to light.

In this country it is of rare occurrence; for though my observations have extended over a period of ten years in this city, and have embraced a large field of hospital, dispensary, and private practice, I have not seen more than four cases. Flint remarks upon its rare occurrence, and says he has only seen six cases.

Many different and more or less appropriate names have been applied to this disease, such as "Thyro-Exophthalmic Neurosis," "Tachycardia Strumosa," "Exophthalmos Cachectica," etc. etc. These, however, are seldom used. Exophthalmic Goitre, Graves' Disease,* Basedow's Disease are the names commonly employed to designate this curious pathological condition. The first of these is, perhaps, the best; for it indicates two of the most striking and important pathological features of the disease, and it was first introduced by Graves himself. He first recognized this disease as a pathological entity, and was the first to describe it as such. It is true, his right to priority in the discovery of exophthalmic goitre has been ignored by some and denied by others; but since Jaccoud's vindication of his claim, it is now admitted by almost every one. In honor of

* Diseases of the Heart. Second Edition.

his name, the disease is by American, British, and French physicians, generally called "Graves' Disease."

German physicians generally use the term "Basedow's Disease." Basedow wrote on the subject, and did much to elucidate it. But whatever his merits, in other respects, the honor of priority does not belong to him, and the name he coined for it, "Exophthalmic Dyscrasia," is rather inappropriate; for the existence of a dyscrasia in Graves' Disease is generally denied.

Graves described this form of goitre in his clinical lectures in 1835; Basedow's account of it first appeared in "Casper's Wochenschrift" in 1840.

Graves' Disease consists of a train of morbid symptoms, whose cause or causes are obscure, and the pathological changes which precede and underlie them have been so imperfectly studied that their real nature is not yet known.

All agree, however, that it is not a mere combination of morbid phenomena, but a separate and distinct disease, whose varied and peculiar symptoms are produced by a common cause.

The most important and peculiar of these are: *Double Exophthalmos, Enlargement of the Thyroid Gland, and Palpitation of the Heart;* and to these must be added dilatation of the arteries. Jaccoud* insists that the last two are the first in order of development. They are present in every case of Graves' Disease; enlargement of the thyroid, or prominence of the eye-balls may be absent, but without palpitation and arterial dilatation the disease does not exist.

Many other symptoms are often associated with these, but most of them are secondary or even more remote, though sometimes serious enough; they are not essential elements of the disease, and are not infrequently wanting. Indeed, some of them must be looked upon as complications and sequelæ, rather than as symptoms. Perhaps the following case will furnish a more vivid picture than a simple enumeration of the symptoms:

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* Pathologie Interne, vol. 1.

L. D., a young girl, aged eighteen, with brown hair, blue eyes, and very fair and clear complexion. Catamenia first set in four years ago, and continued regular until the present illness. Her temperament is nervous and emotional, but ordinarily she is lively and cheerful, and her health has been generally good.

About eighteen months ago her mother first noticed a slight enlargement of the anterior and lower part of the neck. But I was not consulted until last summer, and even then more for the sake of the disorder of her general health than on account of the swelling of the neck.

I found her somewhat reduced in flesh, face pale and anæmic, and complexion somewhat rough and pimpled. Her movements and speech were abrupt and jerking. She had an agitated manner, and her hands were so tremulous that she had been forced to give up all needle-work. The eyes had a wild expression, and were very bright and glistening. The pupils were moderately dilated, though sensitive to light, and the palpebral fissure appeared very wide. The carotids pulsated with abnormal force; the thyroid was much enlarged, and the right lobe more than the left. This swelling was smooth, elastic, and pulsating, but no murmur was at first heard over it or the carotids. The heart beat with excessive violence, but the area of precordial dullness was not increased; the apex beat was found in the normal situation, and no murmurs were heard over the heart. The pulse was very rapid, 135 to the minute, and quite small in volume, though the heart was acting with augmented force. She had gradually become restless and irritable, and slept badly. Her feelings were easily wounded, even trifling occurrences would excite her, but she was never brooding or melancholy. Menstruation, formerly natural both as to time and duration, had first become irregular, but had finally ceased two months before my first visit. The appetite was poor; she vomited now and then, usually of a morning, a viscid, glairy mucus, or portions of food from the last meal. The bowels were constipated, and her abdomen tumid.

She complained at times of heat, and her face would occasionally become flushed, but the thermometer showed no rise in temperature; her breath was short, the voice was changed and variable, sometimes it was lower than normal, and sometimes clear. She had a dry cough, especially night and morning; the paroxysm was often so severe that it induced vomiting; it was aggravated by the recumbent posture. During sleep her breathing was noisy and labored.

These were the main symptoms when I first saw her.

The treatment adopted consisted of iodine and iodide of potassium, and arsenic internally, and iodide of lead ointment to the tumor; but these medicines did not seem to produce a good effect. On the contrary, the symptoms increased under their use so much that it was necessary to discontinue them.

The progress of the case went steadily on. In six weeks the nervousness and agitation had become much aggravated; the pulse was now habitually 140 and 145, and continued small and weak. The carotids had dilated and pulsated with great violence, and over them was heard a systolic bellows murmur. The thyroid had become larger than ever, and a double murmur had developed, which could be heard over its whole surface, but nowhere else. The systolic murmur was loud and strong; the diastolic far less distinct. A systolic cardiac bellows murmur could also be heard over the apex, and the heart's action was exceedingly violent.

The eyes had assumed a wilder expression, the pupils much dilated, and the balls prominent, the whole cornea was exposed in the inter-palpebral fissure. She had marked myopia, and during two or three days there was diplopia.

Cough and dyspnœa were worse, and some mucous râles heard over the posterior aspect of the lungs. The voice was thick, speech jerking; diarrhœa had set in, and she lost flesh steadily. She vomited daily; the nights were passed in restless and in interrupted slumbers; and her sister, who slept with her, said she was incessantly tossing from side to side during her sleep. Catamenia did not return.

A detailed account of the changes in symptoms and treatment of a case extending over many months would be tedious, unprofitable, and out of place here. I will therefore give a summary of the treatment, condensed, from my note-book.

Perfect rest and quiet were enjoined; she was kept in bed for weeks, and fed on liquid and concentrated food; such as cream and beef-tea, and other nutritious and more solid articles, as the irritability of the stomach became less. Small doses of morphia and hydrocyanic acid allayed cough and vomiting, not always completely, but in a greater or less degree. Champagne and sparkling cider were given while debility was greatest and vomiting most frequent. Bromide of potassium, in thirty-grain doses, largely diluted, administered daily, quieted nervousness and produced sleep. But the other symptoms were not influenced by these drugs. Rest in bed in the recumbent posture did not diminish the frequency of the pulse, though the heart's action became less violent, and the thyroid diminished somewhat.

After a while she had thirst; complained of internal heat, and some fullness in the head; and the thermometer showed a temperature of 99½° to 100° Fah. This last was not affected by quinia, and passed away in a few weeks.

While the symptoms were most severe, the pulse was never less than 140 to the minute, and often rose to 145, and even higher.

Tincture of digitalis was now tried, but it did not lessen the frequency of the pulse, nor did it lessen any other symptom, and after two weeks' steady use, in doses averaging sixty drops daily, I left it off.

During February last she began to take valerianates of iron, quinine, and zinc, one grain of each three times daily; and under this prescription there was a decided improvement. The appetite returned, and she gained flesh, but looseness of the bowels continued. The thyroid diminished in size, so that the neck measured three-fourths of an inch in circumference less than at first. The eyes had not so wild an expression, and were

less prominent, and myopia had entirely passed away. Her sleep became quiet and refreshing, and while awake she was less nervous and excited. She was able to read and sew and attend to other light occupations. Dyspnœa and weakness were so far overcome that she could walk down stairs to her meals, and could take gentle exercise in the open air.

In the middle of March she had, without any apparent cause, a sudden attack of epistaxis, the hæmorrhage never recurred, and was unattended by any change in the symptoms. During April she took ergot regularly for twenty-two days; the dose was ten minims of the fluid extract three times daily; but the remedy failed to modify the symptoms in any discernible degree. For three weeks she took large doses of quinia, from fifteen to twenty grains daily, but the frequency of the pulse was not lessened under this treatment. During the whole month of May I applied faradization daily to the cervical sympathetic, excepting one week, when my friend, Dr. T. P. Satterwhite, of this city, applied it for me. We both observed that while the faradaic current was being passed, the pulse fell from four to six beats per minute, but immediately after, it rose again to its former frequency.

While these pages are about going to press, I have taken the following notes of the patient's condition: She is now comparatively calm and quiet, and no longer moves and speaks in the "jerky" manner formerly habitual with her; she sleeps well, and her appetite is remarkably good; she has gained flesh, and now weighs very nearly as much as before her sickness began; she is much stronger, and can take exercise freely; the eyes are not so prominent, nor do they have so wild an expression as they had some months ago, and the pupils are no longer dilated; the goitre has grown somewhat within the last few weeks, and is now fully as large as ever, if not larger; the right lobe being decidedly larger than the left; the pulse rate varies between 120 and 130 per minute, but the pulse is not so small as it was, and the heart does not beat with as violent impulse as formerly; the murmurs are unchanged, and there is no

increase in the area of precordial dullness; there is a very remarkable change in the nutrition of her hair; formerly it was quite long, thick and brown; at present it is quite short and thin, and has become of much lighter color; the catamenia have not returned.

The above condensed report of a very interesting case illustrates many of the peculiar features of the disease.

Exophthalmic goitre is much more frequent in women than in men. Withuysen, of Copenhagen, reported fifty cases, and of these only eight were males.

There is, however, a marked difference in the age at which each sex is most susceptible to this disease. Women are most frequently attacked between fifteen and twenty-five years of age; men rarely until after thirty.

Graves' Disease may be acute or chronic; the latter is the ordinary form, but now and then an acute case is seen. When chronic, its access is slow and insidious; when acute, it sets in suddenly and with violence, and having once begun, whether insidiously or abruptly, it often lasts for years. I have never seen an instance of the acute variety, but Trousseau reports a very striking case, which occurred in a young boy.

The disease may also present another aspect. I have already mentioned, that of the four cardinal symptoms, palpitation of the heart, arterial dilatation, exophthalmos and goitre, either of the two last may be very slightly developed, or entirely absent; and this has been called "the incomplete variety." Teissier, of Lyons, and Trousseau, have expressed the view that Graves' Disease may exist in a still more undeveloped condition; "that the disease may be foreseen and does really exist in a greater number of instances without there being exophthalmos, bronchocele, or extreme frequency of the pulse." Though it may have been observed and clinically recognized even when thus imperfectly developed, it would perhaps be more correct to look upon this phase of the disease as an early and initiatory stage, rather than a distinct form.

Symptoms.—Hyperkinesia of the heart, with great frequency

of the pulse, usually forms the first link in the chain of morbid phenomena. At the same time there is violent action and distension of the carotids, often accompanied by a blowing murmur in the course of these vessels. The unnatural activity may also extend to the aorta, but is never propagated as far as the radial arteries. Indeed, the pulse at the wrist is small and weak, though very rapid, usually between 120 and 140; and it has even been known to reach 200 per minute.

The want of correspondence between the strongly acting heart thumping powerfully against the chest and the violently throbbing carotids on one hand, and the small, weak pulse on the other, is quite remarkable, and evokes our attention and surprise from the first. After a varying period, enlargement of the thyroid body begins; it is slight at first, and barely to be seen; rarely symmetrical, and the right lobe is usually larger than the left.

The goitre of Graves' Disease does not attain such huge dimensions as that of endemic bronchocele; it is subject to paroxysmal increase, succeeded by periods of more or less marked diminution in bulk, and great and sudden emotion and rapid and violent exercise much augment the swelling.

By placing the hand on the tumor a distensive thrill can be felt, and it can sometimes be seen to distend with each systole of the heart. Auscultation will also discover a single or double bellows murmur over the lobes of the thyroid, but early in the disease it may not yet have been developed, and later on it may have disappeared. The tumor is smooth, soft, and elastic to the touch, not lobulated. After a time it reaches a maximum, then becomes stationary, and perhaps even somewhat smaller. In cases of long standing it may become hard, and then is likely to shrivel and undergo marked diminution; yet it never returns to its original size. When the veins, as well as the arteries of the thyroid become dilatated, they are seen traversing the surface of the tumor in a tortuous course, and a of blueish color.

Exophthalmos was not noted in my case until the bronchocele

had existed a considerable time, and I think this is the usual order of development.

Like the latter, it increases gradually until a maximum has been reached. Trousseau taught that the essential phenomena of exophthalmic goitre are more nearly simultaneous in their invasion than commonly appears, and mentions a patient in whom the symptoms altogether were suddenly developed. These are his own words: "She lost her father, whom she had nursed at the cost of great fatigue. This loss caused her great grief. One night, after she had been crying for a long time, *she suddenly felt her eyes swell and lift up her eyelids, her thyroid gland increased notably in size and throbbed in an unusual manner; she had at the same time violent palpitation of the heart. Simultaneously with the development of this train of symptoms, she bled copiously from the nose through the night.* Four days after this she consulted Mr. Desmarres, who recognized ophthalmic cachexia." The morbid changes in the eyes then usually manifest themselves at a later period; though, as in the case just quoted, exophthalmos goitre and hyperkinesia of the heart may suddenly appear at the same time. Even before there is much prominence of the balls, the eyes have an unnatural lustre and a wild expression. When exophthalmos is fully developed, the eyes protrude from their sockets, and the lids cannot completely close over them; the whole cornea is uncovered, and a portion of the sclerotica may be visible between the corneal margin and the free edge of the lids. The distance from each canthus to the nearest corneal edge is increased, and the point of insertion into the sclerotica of both the superior and external recti muscles can be discerned. Owing to occasional congestions, the exophthalmos becomes, at times, inordinately great; and in very marked cases, the eyes have actually been pushed out of the orbits. Under such circumstances it was necessary to replace them by gentle pressure, and Von Graefe recommended the use of a light bandage to diminish the excessive protrusion.

The prominence of the eye-balls is *permanent;* even during

sleep the lids leave them partially uncovered. One might expect that this permanently unprotected state of the cornea and conjunctiva would cause inflammation, and even ulceration of these parts, but it seems to have very rarely occurred, though the sight has, in some cases, been entirely destroyed in this way.

The condition of the pupils is not constant; in my own case they were habitually, though not excessively, dilated.

Trousseau relates a case which he saw with Dr. Cazalis, of the Paris Hospitals; in the account of the consultation, the latter writes:

"On looking at the patient, one is at first struck with the prominence of his eye-balls, which, together with the *marked dilatation* of his pupils, gives to his face a strange, indescribable expression."

Among the whole number of cases reported by Trousseau in his "Clinique Medicale," this is the only one in which the condition of the pupils is noted by him. Flint records three cases, but does not note the condition of the pupils in a single one of them.

Jaccoud* says, most often the diameter of the pupils is normal; in some cases it is contracted; a dilated pupil is seldom seen; and Von Graefe observed this condition in only one case out of two hundred.

Ordinarily, both eye-balls are prominent and symmetrical, but Prael has shown that the exophthalmos may be unilateral, and may sometimes remain so for a considerable time. In Flint's first case,† the right eye was more prominent than the left, but he seems to have observed this want of symmetry only during the decline of the disease.

In the case I have reported, there was myopia and diplopia during the height of the disease; the latter of these symptoms lasting only two or three days; the former a few weeks.

As a rule, vision is unimpaired. All the symptoms are

* Pathologie Interne.

† Diseases of the Heart. Second Edition, p. 315.

aggravated by exercise and excitement. The heart and large vessels then throb most violently, the thyroid enlarges visibly, even to such a degree as to impede respiration; the eye-balls pulsate and feel as if they were starting from their sockets, and the patient sometimes complains of unpleasant throbbing within the head and ringing in the ears at these times.

Graves' Disease most frequently attacks persons of nervous and emotional temperament; the patient becomes restless and fidgety; the movements are abrupt; the speech may also be abrupt and jerking; the latter symptom was well marked in my own case. The emotions are easily excited; the patient sheds tears on slight provocation; trifles affect her, and seem of great importance. She becomes irritable, augumentative, and quarrelsome.

Fothergill* says, when in the Leeds Public Dispensary, he always asked the married women, who had Graves' Disease, if they felt often inclined to quarrel with or scold their husbands, and with a crimson blush an affirmative answer was always given.

The sleep is broken and disturbed. Sometimes there is dyspnœa, which may prevent the patient from lying down or taking exercise. In several of Trousseau's cases this seems to have been the most urgent symptom. It is due in part to the disturbance of the heart, and in part to pressure of the tumor on the trachea.

Epistaxis may occur early where the disease is of sudden access; in my own case it happened only once, and then late in the disease, and after the vascular excitement had somewhat abated.

The catamenia become irregular, and finally cease; during the suspension of this function, the symptoms increase in severity at the periods when the flow is due, but fails to appear. When the menses return, the chief symptoms, as a rule, speedily improve.

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* Heart and its Diseases.

The appetite is variable, either the patient eats voraciously or there is complete anorexia; but whether the one or the other, the patient loses flesh, and soon becomes much emaciated. The bowels are sometimes constipated, but there is a tendency to looseness, and diarrhœa is of frequent occurrence.

The urine is commonly in proportion to the quantity of liquid consumed.

The voice undergoes frequent changes, according to the amount of pressure on or irritation of the recurrent laryngeal nerve.

Cough is a symptom mentioned by Jaccoud, but Trousseau, Stokes, Niemeyer, Fothergill, and Flint omit to mention it. In my case, cough was a prominent and troublesome feature, and the paroxysms were often so violent and prolonged as to lead to evacuation of the stomach, especially when the cough came on shortly after a meal. But vomiting also occurred independent of the cough, and may therefore be one of the symptoms of Graves' Disease; it contributes, when present, to hasten emaciation and debility. Anæmia and chlorosis are not infrequent; the former especially is often due to or aggravated by this disease, but they form no essential part of it. "Teissier noted typical cases of exophthalmic goitre in which there was not a trace of anæmia; the patients had, on the contrary, all the appearances of a fine and sanguine temperament; they were stout, had powerful muscles, and moreover had a sense of their strength." A sense of internal heat and marked thirst are often noted. In exceptional cases the thermometer shows a rise in temperature. The case reported by me combined this with several other symptoms not generally present.

Basedow observed this symptom; it was noted in some cases by Trousseau, who believed a febrile condition to belong to the disease. Teissier remarked it in four cases; and Jaccoud says "the temperature measured by the thermometer is rarely higher than in health. The cases of Paul, Friedreich, Eulenburg, and Guttman are the only exceptions known to him." The thermometric rise is probably never great. In my

case it was two degrees Fahrenheit; in Teissier's one or two degrees centigrade.

Stokes, in enumerating the important features of the disease, mentions "increased force and rapidity of the heart's action WITHOUT FEVER, and of long continuance"; but as he made no *thermometric* observations, he was unable to appreciate slight increase of temperature.

The "tache cerebrale" of Trousseau is a symptom upon which he placed great importance. If the skin of the head be slightly irritated, a bright red spot is speedily produced, which lasts about a minute. It is a transient paralysis of the vaso motor nerves of the minute vessels of the skin immediately under the part irritated, in consequence of which these vessels dilate quickly, easily, and persistently from slight causes.

This sign, though interesting, is not pathognomonic, but may be of some use in making a diagnosis.

These, I believe, are all the factors which make up the symptomatology of exophthalmic goitre. What is the morbid anatomy of the disease, and what its pathology? Our knowledge on these points is still very incomplete, but we have at least advanced far enough to see where the solution of the problem should be sought. The future will show whether our search must be in vain. The number of autopsies on record is not great. Withuysen reported seven; in "Traube's Beiträge zur Pathologie und Physiologie" is another; Stokes also gives several cases in which a post-mortem examination was made. In all these the heart was diseased; hypertrophied and dilated.

But the majority of cases observed during life gave no signs of structural lesion of this organ. Among Niemeyer's cases a large proportion were free from any organic disease of the heart. According to Jaccoud, the heart may present the following anatomical appearances: Normal, simple dilatation, hypertrophy and dilatation, valvular lesions.

The symptoms of Graves' Disease are not those observed in cases of organic disease of the heart; nor can they be explained by either hypertrophy, dilatation, or valvular lesions.

It is admitted that this disease may exist for a long time without giving rise to appreciable structural changes in the heart. Such changes may develop in a patient having Graves' Disease, and this disease may supervene in one already laboring under organic lesions of the heart. It is, therefore, clear that hypertrophy or dilatation of the heart and lesions of its valves do not properly belong to the anatomy of this disease. One must, however, bear in mind that the disease constitutes a condition highly favorable to the development of cardiac dilatation. The excessive frequency of the pulse—120, 140, and even more per minute—continued for many months, must weaken the heart by shortening the periods of rest, so essential to this hard-working organ.

The shortening of the diastole of the heart embarrasses the coronary circulation, and by diminishing the amount of blood passing through the coronary arteries, the nutrition of the heart is impaired.

This organ also shares in the loss of bulk and strength of the whole system, consequent upon the general mal-nutrition, which is so frequent and prominent a feature of this disease.

Secondary dilatation of the heart, with proportionate failure of its functions, is usually a late complication, and its occurrence may be suspected when dropsical symptoms set in; certainty is attained by a physical examination.

The tendency in Graves' Disease to "fatigue of the heart" and "temporary" distention of its walls, was long ago admitted by Trousseau, who believed it occurred mostly during the "paroxysms," when the action of the heart is most tumultuous.

The presence and nature of the "murmurs" heard in Graves' Disease might, perhaps, have been more appropriately considered in connection with the symptoms. The origin of the murmurs heard in the course of the carotids and over the thyroid is the same as in aneurisms. But it is different in regard to the murmurs heard over the heart and of endo-cardial origin. One or more such I believe to be present in every case of Graves' Disease at some period of its course. Now, if a ma-

jority of these cases are free from organic lesions, hypertrophy, dilatation, and especially valvular disease, one naturally asks, How are these murmurs produced? In some cases it has been suggested, they are due to an altered constitution of the blood, anæmia. I am not prepared to deny this, but I believe they are more frequently produced by a weakened condition of the musculi papillares resulting in their irregular and imperfect action, and consequently incomplete closure of the valve. Sometimes the imperfect action of the valve is no doubt due to faulty innervation of these muscles, or to degeneration of their fibres. The correctness of this view is all the more probable, because it is almost always over the mitral valve that these murmurs are heard, and they may disappear entirely, which could not occur were they due to permanent damage of the valvular structure. However, it is only when nutrition improves, and with regained strength the murmurs disappear. Sometimes in Graves' Disease the valvular curtains are the seat of lesions, but then the aortic valve is as frequently involved as the mitral, and not seldom both are the seat of murmurs which remain permanently. Aortic murmurs in this disease are almost always due to organic disease of the valve.

The enlargement of the thyroid body in this disease never reaches the huge dimensions of endemic goitre. Its increase in size is sometimes due to serous infiltration of the tissues; at other times there is true hypertrophy; now and then blood clots, and in rare cases cysts with serous or colloid contents are found in its substance. The vascularity of the thyroid is greatly increased; its vessels are so much dilated that it presents the character of erectile tissue, and like it, subject to sudden and frequent congestions, with proportionate increase in bulk. After a time the thyroid ceases to further enlarge; it becomes smaller and harder, but never entirely returns to its original size. The hardening and shrinking is due to development of connective tissue within its parenchyma, and there is consequent decrease in vascularity. The condition that then

obtains is very much like the advanced stage of cirrhosis of the liver.

The anatomical cause of exophthalmos in this disease is in fact the same as that of tumefaction of the thyroid. The ophthalmic artery has been found elongated and dilated, and the veins so much enlarged that "when the eye-ball was pushed back, voluminous veins were seen to raise the upper eyelid en masse." In the orbit, just as in the thyroid, the connective tissue may increase in quantity; this has been observed by many; and Trousseau reports an instance of so enormous hypertrophy of cellular and adipose tissue inside the orbit that the eye was pushed out of its socket. In Traube's case, already reported, there was a great increase of adipose tissue in the orbit and fatty degeneration of the muscles of the eye, but no hypertrophy of connective tissue. Fatty degeneration of the ocular muscles has been observed also by others; it is probable that loss of tone or degeneration of these muscles may assist to produce exophthalmos.

Von Graefe pointed out that in Graves' Disease there is spasmodic contraction of the levator palpebræ superioris; this is recognized by a hesitating and imperfect manner of closing the upper lid when the eye looks downward. The contraction of this muscle helps to render the eye more open than natural, exposes a larger portion of the sclerotic, and increases the peculiar wild expression of the countenance.

Morbid changes in the cervical ganglia of the sympathetic, such as enlargement and congestion, etc., have been observed, but they have not been constant, nor uniform. Careful examinations have been made, in which no lesion of the sympathetic could be found.

Hypertrophy of the cranial bones was observed in one case; cerebral hæmorrhage and renal disease were discovered after death in some cases. But all pathological changes, so far discovered, must be viewed as effects; their causative relation to the symptoms has not been made out.

All authors agree that Graves' Disease is a neurotic disease. Stokes calls it a "cardiac neurosis."

According to Trousseau, the very numerous functional disorders which occur in Graves' Disease are either due to temporary congestion of the sympathetic nerve or to a permanent structural alteration of the ganglionic nervous system, either of which becomes the origin of transient congestions or of irreparable lesions in various organs.

Niemeyer's idea was that the cause of the symptoms consists in a sub-paralytic state of the vessels of the cardiac muscles; but he deemed it improbable; such palsy of the vascular walls is due to *coarse structural changes* of the cervical ganglia of the sympathetic nerve.

It appears, then, that no constant anatomical lesion has been discovered that will explain all the symptoms of this disease, and that all deviations from normal structure which have been found invariably present, are the result of some unknown pathological process, which we may, however, assume with certainty is seated in the sympathetic.

Jaccoud suggests that, "in order to arrive at a satisfactory explanation of the pathogenesis of Graves' Disease, it is not necessary to find a uniform condition which accounts for all the symptoms; we only need to know the origin of those which are primary and constant.

"The question, then, should be, What is in the present state of physiological knowledge, the condition that can at the same time produce hyperkinesia of the heart and dilatation of the arteries? There can be only one answer.

"The pathogenic cause is evidently a paralysis of the cardiac and cervical vaso motor nerves; and dilatation of the vessels, which is its necessary consequence, induces and maintains palpitation.

"When arterial fluxion extends to the cephalic extremity of the vessels, it gives rise to excitement of the nervous centres, particularly of the cilio-spinal centre. Hence protrusion of the eye-balls from irritation of the orbital muscle of Müller,

enlargement of the inter-palpebral cleft from irritation of the palpebral muscles of the same author, and dilatation of the pupil by irritation of the radiating fibres of the iris. When the irritation provoked by arterial fluxion passes beyond the cilio-spinal zone and reaches the cerebrum, very marked psychical excitement is induced."

The above extract, from the most recent writer on this subject, sets forth the latest theory of the pathology of Graves' Disease. It is sufficiently important and ingenious to deserve quoting, but at the same time it is so strikingly at variance with well-known clinical facts, that the discrepancy ought not to be passed over without notice.

To the statement that exophthalmic goitre is due to a paralysis of the cardiac and cervical vaso motor nerves, one can find no objection. But when Dr. Jaccoud proceeds a little further, it appears that the theory and facts no longer agree. According to theory the pupils should be dilated; observation shows that they are not; on the contrary, Von Graefe found dilatation of the pupils in Graves' Disease to be extremely rare, and elsewhere Jaccoud himself admits that the pupils in most cases are normal.

According to Dr. Jaccoud's theory, psychical excitement should occur late in the disease, long after exophthalmos, goitre and hyperkinesia of the heart had first appeared; "for," he says, "it is not until after the irritation provoked by cardiac fluxion has passed the cilio-spinal zone and reached the cerebrum that psychical excitement is induced."

Now, this is manifestly in conflict with recorded clinical experience; my own observations are certainly entirely opposed to it. In the case I have reported, psychical excitement had existed, and had been noted by the family of the patient for many weeks before any trace of goitre or exophthalmos could be discerned. In another case observed by me, this same change in the patient's temper and disposition preceded the other phenomena by several months.

In regard to the causation of exophthalmic goitre, very little

can be said. The disease often arises insidiously, and develops so gradually that one is at a loss to determine the precise time of its beginning. A nervous, emotional temperament seems to be the condition most favorable to its development.

Anæmia powerfully predisposes to it, but is not of itself sufficient to produce the disease. Grief and fright have been known to act as exciting causes in a predisposed person; but so far I believe none other have been observed.

Canstatt* believed Graves' Disease to be due to scrofula and a manifestation of that diathesis; but the general opinion now is that no necessary connection exists between scrofula and exophthalmic goitre.

The diagnosis in a disease which, like this, possesses symptoms so striking and peculiar, is generally quite easy when the malady is once fully developed. In the beginning, however, and when one has to deal with a case of the incomplete form, there may be some difficulty.

Von Graefe thought that retraction of the upper eyelid, with a downward cast of the eye, is pathognomonic of the disease. The "tache cerebrale" of Trousseau was considered by him to be of great diagnostic importance.

Double exophthalmos scarcely ever occurs, except in this disease, and its combination with heart disturbance and goitre removes all doubt as to its nature.

When exophthalmos has not yet developed, there are still the other cardinal symptoms, which are enough to establish a diagnosis. Should both goitre and exophthalmos be wanting, yet the psychical condition of the patient, the exaggerated action of the heart, and the disproportion between it and the radial pulse are strongly indicative of this disease.

A form of goitre sometimes occurs during and is due to pregnancy; but this ought not to obscure the diagnosis, for the goitre of Graves' Disease is benefitted, and sometimes actually cured by this state.

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* Pathologie und Therapie.

Finally, treatment may, in a doubtful case, throw light upon the character of the malady. Iodine and its preparations have an almost specific influence over the ordinary endemic goitre, which is, as a rule, cured by the use of them. The symptoms of Graves' Disease are aggravated by iodine, and the medicine may even give rise to such paroxysms of congestion as have previously been mentioned. Furthermore, these patients are exceedingly sensitive to the effects of iodine, so that very small doses of the drug, inhaling the vapor of it, or even a sojourn at the seaside, can give rise to symptoms of iodism.

Cases have, however, been noted in which iodine seemed to do good. In one instance, reported by Trousseau, the goitre diminished a little under the use of large doses of iodine, but the exophthalmos showed a tendency to increase.

The question of *prognosis* is, in every instance, forced upon us either by the patient or relatives and friends.

The progress of this malady is essentially chronic; it lasts for months, and even for years, and there is a strong tendency to repeated relapses. The greatest mortality noted appears to have been one in five, but even then death occurred usually from secondary lesions and complications, such as dropsy of cardiac origin, asthenia, visceral hæmorrhage, mortification, etc. Pneumonia was the cause of death in some cases, and, it is said, in others endocarditis.

It is also necessary to remember that, in a disease so chronic as exophthalmic goitre, death is likely to occur without being caused by it, but by some intercurrent disease.

Fothergill very tersely remarks in his valuable work already quoted: "It is neither a fatal nor a curable disease."

Improvement is always gradual and slow, and the cure is always incomplete; for goitre and exophthalmos, after having abated to a certain degree, remain stationary, but never entirely disappear. The cardiac symptoms are the first to mend, that is, the violent action of the heart and the large vessels and the extreme frequency of the pulse diminish. Dilatation of the heart, owing to temporary disturbance, may pass away; but

the endocardial murmurs disappear or remain according to their cause. If Graves' Disease should supervene in a patient already having valvular lesions, the murmurs developed by the latter would, of course, be unaffected by any improvement in the former. When endocarditis occurs in the course of Graves' Disease, the murmurs usually follow the general rule, and become permanent. If the murmur be anæmic, it will disappear with its cause; and if, as I believe it often happens, it be due to weakness or irreguar action of the musculi papillares, or to both, and consequent imperfect working of the valves, it may cease when the nutrition of the heart becomes sufficiently improved and its fibres have regained their normal strength.

When the disease seems to have been caused by fright (Stokes), or when it has originated under the depressing influences of grief (Trousseau), the case is likely to be very slow and intractable.

The most favorable cases are those in which the neurosis seems in some way dependent on anæmia.

Reëstablishment of the uterine functions is a good prognostic, and is often quickly followed by emelioration of the symptoms, especially those of the heart.

Decided improvement has resulted from conception; and the profound changes wrought in the whole nervous system by pregnancy seem to have excited a truly beneficial influence in some cases.

TREATMENT.

The results of treatment in this form of goitre have not been satisfactory. It would be a violation of scientific truth to attribute the recoveries to the exclusive influence of drugs, or even of improved hygienic surroundings. If we wish to obtain a true appreciation of the effect of therapeutic measures, we must here, as in all other diseases, take into account the power and influence of *time* as a modifier of pathological processes, or fall into the error of ascribing such changes to the effect of medication as are really due to *time*, and thus overrate the power of drugs by crediting them with improvements in the

disease which they "could not bring about." When we recollect that the "real nature" of Graves' Disease is not thoroughly and minutely known, it no longer appears strange that there is no unanimity among even the best informed as to the "principle" upon which the treatment of the disease should be based. Indeed, candor impels us to admit that the treatment of Graves' Disease has been, and still is, almost entirely palliative and symptomatic.

Perfect quiet of mind and body must be secured; all sources of excitement and irritation should, as far as possible, be removed. Arguments with the sick person and contradictions must be avoided. The patient should always be addressed in a gentle and cheerful manner. Odd whims and humors should be gratified in a quiet, pleasant way, and care be taken not to call attention to them. Exciting scenes, books, and conversations are to be sedulously avoided, and the physician ought to strictly enjoin early and regular hours. A large portion of the patient's time should be passed in the recumbent posture, and only the gentlest exercise be allowed. The pure, wholesome air, and no less the quiet of rural life render a residence in the country very desirable. Finally, the necessity of highly *nourishing* food in sufficient quantity and of unstimulating quality cannot be too much insisted upon. It is often necessary that the food should be administered in a "concentrated form." My patient, already so often mentioned, has taken a bowl of beef-tea every day for months, in addition to the regular meals, with evident benefit; and she always felt worse whenever it had been omitted for a few days.

In this, as in all diseases whose nature is obscure, a great variety of medicines have been recommended and tried, with more or less disappointment to the physician. When the symptoms, were acute and congestion and dyspnœa excessive, bleeding and lowering measures have been found useful; even applications of ice to the throat have given temporary relief. When there is anæmia, iron should, of course, be prescribed, and always does good, whatever may be the signs of

vascular disturbance. Von Graefe held the view that iron is contra-indicated when there is great vascular excitement and the pulse is 100 or 110 to the minute. But there are only a few cases of Graves' Disease in which it does not average even a higher ratio than this; and therefore if Graefe were right, it would follow that iron could be but rarely applicable in these cases, whereas experience shows it is more generally beneficial than any other medicine that has been tried in chronic Graves' Disease, and that irrespective of the degree of vascular excitement. Arsenic is now and then beneficial as a tonic, but is often ill borne, on account of the frequent tendency to diarrhœa. In the case of L. D., it was necessary to discontinue its use for this reason.

Large doses of quinine have been given with benefit; but as a rule only temporarily; at times without any apparent effect. In the case just alluded to, I gave it for several weeks in doses of from fifteen to twenty grains daily. It did not diminish the frequency of the pulse, but imparted to the patient a sense of comfort, so that she did not feel so well when it was withdrawn. Under its use she felt stronger and less nervous and agitated; it was therefore resumed in five-grain doses thrice daily, which never gave rise to symptoms of cinchonism.

Belladonna and ergot have been suggested, and Niemeyer recommends the latter for its power of causing contraction of the walls of the blood vessels and a reduction of their calibre. I have tried ergot in only one case (ut supra), but then found it unproductive of any appreciable results.

In a recent clinical lecture on Graves' Disease, Dr. J. Forsyth Meigs,* of Philadelphia, states "that in all his later cases he has used digitalis, and always with benefit." When there is dilatation and debility of the heart, no other drug is equal to digitalis, and I cheerfully attest its power and beneficial effects in such cases, but it certainly does not "always and in all cases" effect a favorable change in the disease. I gave it to L. D. for weeks, first in the form of tincture, without the

* "Richmond and Louisville Medical Journal," page 652, June No., 1873.

slightest effect; and again later in the form of infusion, half an ounce three and four times daily, but without any benefit whatever. Niemeyer's pill is often given, however; it is composed of extract of opium, gr. $\frac{1}{8}$; powdered digitalis, gr. ss.; sulphate of quinia, gr. i.; taken three times daily, or every six hours.

Electricity has been resorted to, and seemingly not without good results. The constantly induced current was applied in two cases quoted by Jaccoud. In the first, daily electrization for eight days was followed by a fall in the pulse from 130 to 70 and 64 in the minute, and exophthalmos diminished.

In the second, the pulse was habitually from 108 to 130; tension of the carotids was very great; electricity was applied to the cervical sympathetic with a very feeble current. The pulse fell gradually, first to 84, then to 70, and there was proportionate diminution of arterial pressure.

Electricity did not yield such striking and happy results in my hands; but then the only case in which I tried it was much more severe, if one is to judge by the pulse rate, than those just quoted, and appeared throughout to be but little controlled by any kind of medication.

As a palliative application, Von Graefe suggested the use of a light bandage over the eyes when exophthalmos is excessive.

Finally, the aid of surgery has been invoked, probably as a last resort in an extreme case, but the result was disastrous.

Tracheotomy was performed for the relief of intense and threatening dyspnœa, but only once, and the patient died of hæmorrhage.

In spite of this discouraging result, Chassaignac and Demarquay have advised division of the thyroid by means of the linear ecraseur, in cases of imminent suffocation. So far, however, no one has been reckless enough to perform this hazardous operation. Indeed, cases in which dyspnœa is so alarming, must be exceedingly rare.

ART. III.—EPIDEMIC CHOLERA-MORBUS. By JAMES H. SOUTHALL, M. D., Little Rock, Ark.

This disease, having been so prevalent during the last month of spring and beginning of summer, is my excuse for writing a short treatise upon the same, as it appeared in this place (Little Rock) and vicinity.

First, concerning its presumed cause; secondly, its known severity and peculiarity of sypmtoms approximating Asiatic cholera; and thirdly, the treatment found most efficient in its cure.

As an epidemic, it most frequently appears during those seasons, and in whatever country there is much heat of temperature or variableness of the same during the day and night, and where usually we find functional derangement of the liver accompanying every variety of complaint. It has been defined a preternatural inversion of the peristaltic motion, or convulsive contraction of the stomach and bowels, characterized by incessant vomiting and purging of acrid matter; sometimes bilious. As to the cause of the epidemic herein referred to, but a few isolated cases could be attributed solely to obstructed perspiration. Acrid or irritant matters taken as food, or to any *change* making more acid the bile; as by far the majority of cases never exhibited any trace of bile in their stools until relief had been somewhat obtained; but seemingly was due to a heated and humid atmosphere, with a want of tonicity about the digestive organs, and a direct cause acting upon the primæ viæ similarly to that producing cholera proper. As to its being merely the irritant properties of ingesta, causing congestion about the entire length of the alimentary canal, and thus a perversion of the nerves of the investing mucous membrane to such an extent as to occasion the profuse flow of watery stools, may be denied, from the fact that of each patient inquiry was made as to their eating anything likely to induce colic or cholera-morbus, and the reply generally elicited was to the contrary. Indeed, within the confines of our State penitentiary and county jail, where the inmates are and were subjected

to the sameness of diet, without any admixture of such articles as would probably—barring some predisposing or exciting cause—bring about the disease, the same characteristic prevalence was perceived. Neither was its pathogeny altogether seated in the duodenum or biliary ducts, as is usually supposed; but apparently in most of the cases observed, located in the stomach and bowels, as exhibited in the copious white flocculi held in suspension by the fluid evacuated; and the gradual appearance of the algid condition of the less malignant Asiatic cholera, creating the belief, on the part of many physicians here, who were disposed to speculate regarding its nature, that unless many hygienic improvements were adopted and persevered in, that there was great probability of a return, as epidemic, of that dreadful scourge, Asiatic cholera.

The attack was most generally ushered in by a promonitory diarrhœa, of a white, foaming character, as if impregnated with much gas, not accompanied with much pain and uneasiness, but by a feeling of languor and lassitude; the patient experiencing a sense of relief after each operation; being gradually succeeded in six, twelve, or twenty-four hours by genuine *rice-water* discharges having alkaline reäction; with an odor peculiar, yet not so offensive, as putrid beef; and following each operation, with frequent intervals, severe cramps of extremities, forcing the patient to cry out from pain; having also an entire want of capillary circulation, with coldness of the surface of the body, and shriveled condition of the skin, washwoman fingers, etc.; with great thirst and vomiting, and in some cases, for the time, suppressed urinary secretion.

The indication for treatment in this disease is to correct, first, the acrimonious character of the secretions, if such exists, and if necessary expel it by art; second, to check the violent motion in a proper manner, and relieve the local congestion, and thus excite as far as we are able a normal action of the secretory organs; and third, to strengthen the weakened nervous parts, as also to impart to the already deficiently oxygenated blood the requisite ozone for the proper function of the

organism of our patient. This last being, in my opinion, certainly a predisposing cause, and should be overcome so soon as time and opportunity presents itself with an available hope of so doing. To accomplish the first and somewhat the second of these indications, we have found the administration of hydrarg. sub. mur., grs. iv.; opii pulv., grs. i., every two or four hours, in coöperation with hot pediluvia and the application of dry cups over lumbar and entire abdominal region, to have occasioned the carrying off of the irritating excrementitious matter, and restrained the violence and frequency of the motions; at the same time, through continuance of its use, reducing the excessive secretion, and equalizing it to a more normal degree. The cups and baths having a tendency toward equalizing the circulation and relieving local congestion. Thus placing our patient in a condition to admit of the third and last indication, to meet which we find, in conjunction with quinia and later with citrate quinia and iron, in four-grain doses, that nitro muriatic acid in three-drop doses, three times daily, given at intervals distinct from the first, has a most excellent effect, and the cure is complete.

ART. IV.—CASE OF SO-CALLED HERMAPHRODISM. By L. W. RITCHIE, M. D. [Read before the Clinico-Pathological Sociciety of Washington, D. C., and sent by Request of Society to the "Richmond and Louisville Medical Journal" for Publication.]

I was called to the bedside of Mrs. ——, who, after an easy labor of three hours, was delivered of a very feeble child, somewhat under the usual size of one at full term. The health of both parents was excellent, and they were living in easy circumstances.

Upon making a hasty examination of the genital organs, in order to announce the sex to its mother, I felt so much embarrassed as to be compelled to keep silence. However, after a

more careful examination I declared it to be a female, and as such it was duly registered and christened.

Dr. William Lee, whom I invited to see the case, suggested that it might be a case of hypospadias of the male, which, however, was negatived by the absence of the testes.

The child lingered through a painful existence of two months, when it died in convulsions.

I sought and obtained the consent of the parents for an autopsy, which was only given on condition that the father be present to see that no portion of the body be taken away. I was consequently compelled to sever the continuity of the urethral canal, so that I might have the opportunity of presenting it to your attention this evening.

You will observe, upon inspection, that we have a clitoris which, previous to its being placed in alcohol, was quite an inch in length, and resembling a penis, having a very distinctly defined, but imperforate, though fissured glans, with a well marked, movable prepuce emerging from under the pubis, and shooting out from what seemed to be the superior part of the scrotum; below the root of the clitoris there is a small urethral opening, only admitting the introduction of the smallest catheter, and communicating directly with the bladder. The *labiæ majora*, in their conformation, bear a very striking resemblance to the scrotum, having been more decided during the life of the child. This completes the description of the external appearances.

The disclosure made by the post-mortem examination presents another convincing proof of its being physiologically and anatomically impossible to find two perfect sexes combined in one individual. The uterus, with ovaries and fallopian tubes, was found resting upon the posterior surface of the bladder; the vagina was in position, perfect in formation until it approached the uterus, when it was closed, with the exception of a very small opening, scarcely large enough to admit a pin.

All writers upon this subject that I have been able to consult agree with M. Geoffroy St. Hiliare, who, in his history of

"Human Anomalies," makes a division of hermaphrodites into four classes, viz:

1. *Masculine*, or those in which the generative apparatus is essentially male, accompanied by some female forms.

2. *Feminine*, where there is essentially female apparatus accompanied by some male forms.

3. *Neuter*, where the organs are so mixed that it is impossible to tell the sex.

4. *Mixed*, where the organs of copulation are *actually mixed*, though not the organs of reproduction.

In my case, an examination of the enlarged *clitoris* shows the absence of the *corpus spongiosum*, which is a diagnostic point between the clitoris and true penis.

ART. V.—THE SHOCK OF SYNCOPE USED AS A CURATIVE IN A CASE OF DEMENTIA. By A. R. KILPATRICK, M. D., Navasota, Texas.

This case occurred in Louisiana, in 1851, and from various causes I have failed to report it. It is hoped, however, that its age will not detract from its interest.

The patient was a German laborer, who had been in this country only a short time, and was not able to speak the English language. He was under treatment by a Prussian physician, Dr. R. Quail, who was skillful and intelligent, having been educated in Berlin. I was sent for in consultation.

The patient was about thirty years old, about five feet ten inches high, and, when well, weighed one hundred and forty pounds; light hair, fair skin, and blue eyes. He had been sick nearly a month, and, early in his sickness, had become insane, demented, though not violent; required close attention to keep him in bed and covered. The physician was a man of vim, and said he had run through all the remedies usually employed in such cases. The patient was lean, pale, and quite emaciated, as he refused nourishment. After hearing what had been done, it

occurred to me that he could be relieved by a shock, which would or could impress the brain quckly and powerfully. Bleeding could not be resorted to, and we had no battery of any kind. Blisters, revellents, and counter-irritants had failed.

I then proposed to the Doctor my plan, which was to produce syncope by holding the patient up erect on his feet until he fainted. He unhesitatingly assented to the proposition. We got ready such stimulants, rubefacients, and restoratives as we considered necessary, and placed them so as to be used promptly, as we knew the hazard we incurred.

The weather was cool; there was a good fire in the room, and a negro man in attendance. The patient refused to try to get up when requested by the Doctor to do so. We took him from the bed forcibly and led him near the fire in spite of his struggles, and kept him standing a short time, not a minute, when he fainted and sank in our arms, as we both were holding him. We instantly replaced him on the bed, removed the pillows, and covered him with warm bed clothes. We used the restoratives and frictions energetically; respiration soon returned; he opened his eyes and looked up at us. The blank, fatuous stare of dementia was gone, and there was intelligence on every feature. He smiled, and spoke in German to Dr. Quail something which assured him that his senses were restored. Only physicians can understand our feelings at seeing the result of our practice.

We agreed upon further course of treatment; the patient went on, without any trouble, to a complete recovery. I never saw him after that; but had my information from the medical attendant a short time afterward.

My readers are as competent to philosophize and speculate on the *rationale* or *modus operandi* as I am, and I leave them to do so, each for himself.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—THE STUDY OF MEDICINE BY WOMEN—BEING THE ADDRESS AT HIS INSTALLMENT OF THE DEAN OF THE VIENNA UNIVERSITY. By Prof. JOSEPH SPAETH, Vienna. [Delivered in the University Aula, November 12, 1872.]

Hochanselige Versammelte!

Akademische Bürger!

According to ancient custom, it is the duty of that member of the Faculty who receives this mark of the confidence of his colleagues, the most honorable recognition which can be granted, and who is adorned with the highest academic decoration of the venerable consistory, to deliver an address of greeting at the ceremony of installment upon some subject of his own selection.

In the discharge of this obligation, permit me to address you in brief upon a subject which has been the theme, in our times, not only of frequent theoretic consideration, but has already acquired earnest, practical importance.

It is the question of the study of medicine by women. Are women equally endowed by nature and equally called by nature to undertake the study of the sciences? Are they equally fit for all those avocations which have been hitherto pursued exclusively by men? Are our universities to be freely opened to women?

It is, of course, not my purpose here to consider this question exhaustively; the time will not permit it. I desire only to awaken earnest thought upon the subject, because it will soon devolve upon us to decide upon it in a positive way.

The reasons which have brought this question to the surface in our day are various.

It is, in the first place, an indisputable fact, that the social position of woman is significant in evidence of the morals and manners of a people. The history of the Orient, thus, has clearly shown us that a nation sinks from its high position and falls

into barbarism with the loss of respect for the female sex, with the debasement of woman to slavery. Reasoning from this fact, there are many who believe that, even amongst us, women are not regarded with the consideration which is their due; that they do not yet occupy that position to which they are entitled by the laws of universal equality among mankind. Women are born equals of men, they are to be regarded as their equals in every consideration, and the temple of science should be as free of access to the one sex as to the other. This process of reasoning finds great support in the leveling ideas as regards everything, so prevalent in our day.

Others, again, reason from a standpoint not so ideal in its nature. They are simply concerned to make women more independent and individual; to open to them, what they consider, easier roads to support and success. As they have been admitted to railroad and post-office service, as the telegraph offices have been entered, as also the halls of science have opened their doors, so the universities of all kinds should be free, that, in short, with other scientific pursuits, woman should be allowed to study and practice medicine.

This question has gained greatly in practical importance since the universities of Edinburgh, St. Petersburg, and Zürich have really admitted and graduated female physicians.

In Edinburgh, a female student was first admitted in 1869. At present this university has eleven, three of whom left, however, in the course of the year. As yet not one has finished her studies. Nor is this question, in Edinburgh, fully settled as yet. The Senate of the Academy has expressed itself, it is true, in favor of the admission of women to the medical department, but the Faculty has appealed to the supreme courts in London, and hopes for a decision in their favor. The medical professors are all opposed to the admission of women, and refuse to give them a separate course of lectures. The male students are even more obstinate in their objections to a common course. Thus the inscribed eleven await the uncertainties of the future.

In St. Petersburg, our distinguished countryman, Professor Gruber, has taken grounds in their behalf, and has opened to them the doors of the medical amphitheatre.

But the state of affairs in Zürich deserves the most consideration. The first female student inscribed at this school was a young lady from Russia, who began her studies in the winter session of 1864–5. From this time the question of female medical study slowly developed until at the close of the summer session of 1871, 25 medical students and 7 philosophical were registered in the books. The crowd, however, only pressed at the gates in 1872, when among 354 inscribed students, 63 were young women. More than one-sixth of the whole attendance thus was of the fair sex, and most of these favored the medical department, as of 208 students, 51, nearly the fourth, were medical students. The remaining 12 ladies belonged to the philosophical department.

As to the nativity of these students, the greatest contingent was furnished by Russia. Of the 63 female students in the summer session of 1872, 55 were Russians. England ranked next to Russia in numbers, while Switzerland, Germany, Austria, and America only furnished individual students.

Of all the candidates up to this time, 17 have left without examination; 6 female medical students have received the doctor's hat.

During the present summer, in Zürich, up to the 13th of this month there have been registered 356 male and 105 female students, among whom there are 201 male and 80 female medical students. As before, most of these students are Russians.

Thus the studiosæ et doctrices medicinæ develop more especially in Switzerland, and stream out over all lands and among all peoples to knock at the doors and demand admission into the lecture-rooms of medical institutions. And now they come to us. The number of these birds of new feather is daily becoming greater, apparently, and the subject assumes importance accordingly, and correspondingly calls for serious consideration.

The question of the admission of women, as might have been

expected, has evoked sharp controversy. The discussion, hitherto, has been carried on between Prof. v. Bischoff, of Munich, as opponent and Profs. Boehmert and Hermann, of Zürich, as advocates.

The solid anatomist and physiologist, Prof. v. Bischoff, sought to take the whole subject by the roots at once by denying to women the possession of any capacity for scientific investigation with the sentence, "The faculties requisite for the study and practice of the sciences, more especially the natural sciences and medicine, do not belong to the female sex by divine or natural endowment." Bischoff finds his first and, in his opinion, most essential support for his view in the fact that the absolute weight of the whole brain, the organ which we must regard in material expression of intellectual capacities is, on the average, smaller in woman than in man. This is the case among all people and races. The difference mainly concerns the cerebrum, the organ of consciousness, intelligence, and the higher intellectual faculties; it is little or not at all apparent in the cerebellum, the central organ of motion, which has the same weight in both sexes. These facts, which are highly significant at the first glance, are recognized by all authors, though they vary somewhat in their estimate of different weights.

Yet we can not accept this fact in solution of the question, for we have only to reflect that there are animals whose brains weigh five pounds and more, while that of man weighs only three. If we recall the fact, further, that the relative weight of the brain—*i. e.*, the proportion between it and the weight of the body, a question, strange to say, to which v. Bischoff attaches no importance, is in favor of the woman (that of man being 1.36, while that of woman is 1.35), and further, when we remember that comparative anatomy, in general, can demonstrate no accurate connection between the whole mass of the brain and the manifestations of intellectual capacity in animals, it will be seen that it is idle to attempt to deduce simply from the absolute disproportion of brain-weights any intellectual differences; absurd to base upon it woman's inferiority or incapacity for the

cultivation of the sciences. And even if the female sex were inferior as a sex, this inferiority may not be true of all its individual members.

Bischoff attempts to support his views, then, from history, intimating that woman is not inferior to man because she is bodily weaker. It is mind which always gains the victory with time. If women were the intellectual equals of men they would long ago have held the reins; they would have reduced men to slavery. This is everywhere the case in nature, he continues, either openly or secretly, outside of the sciences. Moreover, history shows that no single event of progress, no new truth was ever advanced by a woman.

But v. Bischoff must himself confess that there have been at all times women who have accomplished themselves and developed facts in belle-literature and in the fine arts equal to the productions of many men; women, too, who have acquired unusual practical familiarity with and skillful success in the execution of the various doctrines of medicine. Certainly most of us may recall individuals among women who have shown their capacities with lustre, if not in the department of the sciences, yet in various other fields. Moreover, there never was a time when the opportunities for female education were so general and accessible that the scientific acquisitions of the two sexes might be comparatively tested.

The experience of the Zürich school does not speak unfavorably in this regard as to the capacity of women. Six ladies have already stood the examination with credit; four of them are marked as being passed with the note "good," and two with the note "very good." Several of the professors, further, have taken occasion, several times, to express themselves as satisfied with the progress of the female students, and Hermann has remarked that no one of the professors has ever felt himself compelled to reduce the character of his instruction in any way from the standard of a scientific lecture to meet the capacity of his female hearers. The examinations, moreover, are said never to have been conducted with any partiality in their favor.

Dr. Gruber, Professor of Anatomy in St. Petersburgh, expresses himself in the same way. At the public celebration, April 4, 1872, he took occasion to state that the exercises of the females were fully equal to those of the male students.

These observations are, of course, as yet too limited to enable us to establish any comparisons with mathematical accuracy, yet they suffice to prove that no one is justified in refusing to woman any capacity for scientific culture. It should not be forgotten, that among men it is not by any means the majority who specially distinguish themselves by their intellectual capacities or developments, and of all the practitioners, with or without diplomas, it is not the majority who shine in history—stars of the first magnitude—as discoverers of new truths in science.

And even admitting it as true that no woman has ever been productive in the cultivation of the sciences, or has ever been able to make a discovery in science, are we justified on that account in totally refusing woman education in the sciences? Would we not be compelled on this principle to shut our universities in the face of men so little gifted that we could not expect from them any essential contributions to science? But the question whether woman is actually adapted to the exercise of every avocation proper to man is a question of a totally different nature.

If, now, we grant to woman the capacity for scientific studies, we must also necessarily grant her full justification for its exercise, on the grounds of the universal equality of rights for all mankind. Every creature, endowed with sense and reason, must regard it as an individual obligation to develop this sense and reason to the highest degree possible, and every effort of this kind should find assistance in every direction. Science and art know no privileges. They recognize no distinctions of race, none of sex. They are property common to humanity. It is the duty of every human being, man or woman, to strive after light and truth.

In this consideration, the question of intellectual capacity is

not alone decisive. The chief question here, indeed, is the consideration of the laws of nature. Every being has a distinct mission to fulfill in the great plan of creation; there is a definite design for each creature, and the creature can only accomplish its destiny when working in full unison with the law of its nature.

This law extends through all creation, and man does not escape it. Long ago he has learned to recognize it as one of the principles of social welfare, that each individual has his appropriate place. In determination of this position, peculiarities of body and mind, more especially differences of sex, cannot possibly be without influence.

Let us compare now, for a moment, the characteristics of the female with those of the male, and we will be led to a positive answer to the question whether both sexes are destined to take the same positions, whether both may everywhere furnish the same results in the same positions.

In man, cold reason rules; he is able, with a pertinacious persistence, to penetrate to the bottom of things; in man is the full devolopment of physical strength. In woman, it is the heart and sympathies that rule. As Schopenhauer has correctly observed, women regard mostly the surface. In woman is the full development of gentleness and delicacy.

Man is the creating, woman the nourishing principle.

The body of man recognizes only the continual increase and decrease of its strength, whose exercise is in no way influenced by sexual relations.

What a difference, what changes do we not see in this regard in woman? How great are the disturbances at the period of development. What marked interruptions occur in her usual avocations during the greatest and most important part of her life in the necessary functions of nature from which she cannot entirely escape, should not—if she would not run directly counter to the design of her condition—if she could. Shall we ever oppose this intent of her creation? Would it be natural to evade the laws of nature?

The body of woman is as definitely determined for the first care of the child as is her mind. How marked are these characteristics in the higher animals, and, physiologically speaking, man is only the highest animal.

So far as the body of woman is concerned, no one will deny this intent of its creation. But her intellectual faculties are just as definitely created for the same. Who but knows the delicacy and sympathy, the self-sacrificing care and attention which the mother devotes to the helpless new-born. Who doubts the gentleness and loving kindness with which the mother ennobles the young heart. Who can so awaken these feelings—foundation stones of humanity—like the mother. She is the founder and the support of the family life, and without this well-regulated family life no society can exist. To withdraw her from this high position, as priestess of childhood—the design of her creation—would be to deliver up humanity to barbarism.

These considerations clearly show that women are not destined for all those avocations which demand either long-continued and uninterrupted scientific preparation, or claim constantly the entire attention of the individual, or finally, make great demands upon the physical strength. I refer especially here to the practice of medicine, which is so sought after by women in our times, and which is regarded as so suitable to women by many people. The least attention must exhibit the unfitness of women for this avocation in all the considerations just mentioned.

How wide the field of science to be studied in medicine, how thorough and solid should be the preliminary preparation, and how earnest and continued the labor in all after-life! It demands an elucidation which can only be acquired by the uninterrupted study of many years, and this study must be done chiefly while the mind is young, docile, and receptive. It may only be undertaken with any degree of success between the tenth and twenty-fifth year of life, just the very period when the female organism is developing, just at the time when social

life makes its greatest requisitions. A woman cannot engage in such studies at this time without incurring danger to her whole life, or rendering herself unfit, indeed, for her peculiar calling. The long-continued, exhausting pursuit of the sciences, more especially the medical sciences, least of all comport with the development of the female organism.

But think for a moment now of the practice of medicine. How great is the physical effort! Day and night, the physician must be ready at every moment for every man. At no time must the heart acknowledge any other master. How does such an avocation comport with the varying phases of a woman's life? With the first duties of the mother? With the later maternal care of the child? With the demands of family life? In short, with the high and holy duties which nature has imposed upon the sex?

But we are reminded of the midwives who are engaged in medical pursuits and who are mostly themselves mothers of families. We are told, therefore, that women are specially suited to the calling of the physician. The very first promise of this reminder is totally erroneous. The individuals trained to this pursuit do not possess a scientific education. Without the least preliminary culture, they are passed for their avocations, with us, in a few months, in France, in a single year. The kind of training through which they are put demands only a short time, and may be acquired even in the later years of life. How may this kind of instruction be required of the physician? Besides all this, who that knows these women at all would hold up their families, in the rule, as models for imitation.

Now, as regards the fitness of women for female diseases, I put the question, first of all, What constitutes what is known as the specialist? Is he a specialist who has studied nothing else and knows nothing more than what concerns his immediate department? Is he only a veterinary surgeon? No! Every specialist, to be at all competent in his branch, must be competent in all branches.

There is no region in the animal economy in which the processes of life are secluded, and in which they remain without influence on the other organs, or without being influenced by their peculiar processes. Who will understand the processes of individual organs, must know the whole organization. Every specialist, therefore, must have ranged through the whole study of the medical sciences, he must have learned the connection between all the organs, and must be familiar with their reciprocal actions. It is only then that he may presume to cultivate any one department, and he should never neglect the progress and discoveries in other departments. This is the case for every specialist, and most especially for the obstetrician and gynæcologist. Think only how complicated are the processes of disease of the sexual organs of the female, and how intimately the physiology and pathology of this domain are connected with the whole organization. What a rolê they play in the whole nervous system, what an influence they have even upon the mind. I refrain from further considerations of this subject, as I believe I have said enough to show that a gynæcologist is not a veterinary physician, and that the education of the female physician cannot be other than the education of the complete physician plus a special cultivation in a particular branch of medical knowledge.

Is it true that women are better adapted than men to the practice of obstetrics? Support is not to be taken for such a view from the coarse assistance which may be rendered by uneducated persons in normal labors; the ability to render such assistance implies nothing more than a training as nurse in a special department. The more important and difficult part of obstetric practice, with its laborious, exhaustive efforts, with its often terrible accidents, demands physical strength, persistence, cold reason and a judgment at all times unfettered by the emotional nature. For such work is no woman fit! I state it here: neither the Medical Profession in general nor the profession of gynæcologist in particular is suitable for a woman. Not only every physician, but every philanthropist should enter earnest

protest in the interest of woman, in the interest of mankind, against this unnatural pursuit of medicine by women.

The whole experience of history supports these views. Dr. Harless, Royal Prussian Privy Councilor, Professor at Bonn, has cited in his work, "Die Nerdienste der Frauen um Naturwissenschaft and Heilkunde," a number of women in all times and among all peoples who acquired in cases a high reputation in the different branches of science. One of them, Helena, Lucretia Cornelia Piscopia received, with all the ceremonies, the degree of doctor of philosophy, at Padua, in 1678, and was adjudged worthy of the degree of doctor of theology, which would also have been accorded her had not the Cardinal Bishop of Padua firmly opposed it. So in all places and at all times women have studied the different branches of science, and some among them have acquired reputation, if not in any originality of labors, yet in knowledge of the labors of others. But cases like this have always been few and far between. The position of woman has not been imposed upon them by any superiority of the stronger sex; it has been established by the unalterable laws of nature herself.

The experience of the present bids fair to simply verify the experience of the past. In Zürich only six females have finished their studies, while seventeen have entirely given them up. Of the Edinburgh female students mentioned, two have a second time given up their studies to get married, while the third, already engaged for marriage, still pursues her studies in Paris.

Very many of them, attracted at first to the pursuit of science by the charm of novelty, have soon seen that they were not fitted for such labors and have turned back to that—which is the true sphere of the sex. And if women will marry while students, what is then to be expected? and though Katharina Errleben, M. D., a graduate at Halle, in 1754, says that it is easier and pleasanter to study in the society of a sensible husband, yet I cannot yield my opinion that the cares of childhood and the noise of children would interfere very seriously with the repose which study requires.

Many of these objections are acknowledged by even the warmest advocates of women's rights, on which account they are compelled to confess that while there are women not in position to study the medical sciences, yet there are many others, as childless women, to whom these objections would not apply. The very statement is itself an acknowledgment that the practice of medicine is suited for women, only exceptionally, and not as a rule.

How, now, shall these exceptional cases be selected? and if found is there any necessity for them?

As regards the first question, I may recall the fact that the study of medicine demands a preparation which should begin in early youth, and continue uninterruptedly to later life. What girl may decide at this time whether or not she will be childless? Surely but in the fewest cases may this question be settled before the 25th to 30th year. A thorough scientific education after this period is a simple impossibility.

As to the necessity for female physicians, more especially for female diseases, v. Boehmert refers to the fact that female physicians enjoy extended practices in America; that the female physician, Garrett Anderson, in London, and two female physicians in St. Petersburgh, possess great reputations and rejoice in abundant testimonials of high public esteem. He says: "It is certainly unquestionable that thousands of men and women who are restrained by modesty from consulting male physicians, or who do visit them finally only when it is too late, or in the most extreme cases, would hail the presence of a female physician as a saviour of the sex." With an experience now of twenty-two years as a gynæcologist, I contradict this statement in the most positive way. I may be allowed, too, to speak with some authority upon this very subject.

Firstly, then, I claim that there is no lack of male physicians, so that there is no necessity for the pursuit of medicine by persons less suited to its practice, as by women.

Further, I do not see any proof for the necessity of female physicians, in the fact that here and there a female physician

stands well in public esteem. The judgment of the public must not be over-estimated in this regard. There is always in the public mind a tendency to adopt whatever is new or novel, and this tendency, in the rule, is neither careful nor cautious. And there is no difference here between the ignorant and cultivated classes. Recall only the blind and senseless praise heaped upon every quack of whatever sex, however shameless the swindle, if they only possess the tact to draw. Because the public streams after them in crowds and heaps their confidence upon them, does that in any way demonstrate the necessity for such a class?

The judgment of the public is of value in such a question only when female physicians have been long established in a community, and when they are present in great numbers. I am fully convinced with v. Bischoff, that the judgment of the public would then fall in favor of male physicians. I am convinced of this belief, because I am fully aware of the confidence which women, old and young, repose in an honorable, respectable man, in even the most delicate affairs of life. Every gynæcologist, in large practice, will surely support me in this opinion.

An important reason why women repose more confidence in men than in their own sex in not only ordinary diseases, but also in diseases of more delicate nature, rests in the knowledge they possess of their own sex regarding that peculiar characteristic which has cropped out so prominently among the female telegraph operators employed in Russia. A correspondent of the "Allgem. Augsburg. Zeitung," No. 557, this year, remarks upon this subject as follows:

"The ladies employed as operators in the telegraph service have shown themselves so utterly unable to keep dispatches secret that even the threat of discharge has not sufficed to keep them quiet. So soon as it was ascertained that this leakage was not confined to individuals, but was tolerably general, it was determined by the authorities to receive no more women into the service, and to send those already employed into the distant offices."

Can we believe the female character is different in other places and under other circumstances than in Russia in this department? "Man keeps the secret of another closer than his own; woman, on the contrary, keeps her own closer than another's," long ago wrote La Bruyére, the finest character painter of the seventeenth century.

Finally, I cannot refrain from mentioning the fact, only as I pass, that the education of a physician and the exercise of his profession includes much that does not comport with our conceptions of the female character. With what aversion, for instance, are we not compelled to regard the young girl, just blossoming into womanhood, when we see her working among the dead with scalpel in hand! Perhaps this aversion rests only upon prejudice or education; should it become general, it might not excite the same feeling. How often is not this feeling evoked from no other cause than mere habit? The feelings therefore should not enter into a question only to be decided by reason.

Shall we then open our universities to women to fit them for scientific pursuits? I answer decidedly, no! The abnormal circumstances prevalent in Russia and the conditions in America, comparable in no sense with ours, form no criterion for us. Nor can the bizarre excesses of Great Britain call for imitation; as little the hitherto dubious results in Switzerland.

Since then such avocations are unnatural to women, since it can in no way contribute to the welfare of society to withdraw women from their own high proper calling, since the necessity for female physicians does not exist, it is not justifiable to call upon the State to provide female instructors for the scientific education of women. The State may not regard the inclinations of its individual members; it must regard the weal of the whole.

Nor could I admit that woman should be admitted to the same lecture-rooms with young men. Adverse to such a plan speak both ethical and didactic reasons. All instructors are aware of the fact that the sexes should be more decidedly

separated as they near maturity. I do not consider the experience of Zürich as decisive in this regard. It is claimed that no difficulties have arisen from the common course. There is a great difference between small institutions with but few students and large and crowded universities. I am glad to believe that every professor may lecture to his little audience upon whatever theme; it were indeed sad for science if this could not be so. But it is different in institutions so crowded that any supervision is impossible. But even here the least evils would be experienced in the lecture-hall itself. Far more serious would be the consequences outside of the lecture-rooms; the larger the number of students, the more diverse the characters; no crowd can be collected that does not contain individuals of various natures.

Most especially do I protest against the erection of institutions to secure a kind of half-way education, which can be of no use to either science or humanity. Such an institution is that which has been called into existence in St. Petersburgh, under the recommendation of Surgeon-General Koslow, and with the approval of the Russian Czar: "A Medical School for the Training of Educated Midwives," as the statute puts it. The course is as follows: So soon as the female above twenty is through with the gymnasium, or shows evidence of equivalent education, she is admitted to a five years' course, in which she is to be instructed in all the branches of medical science, but with less regard for the other branches than for obstetrics and diseases of women and children. The simple reflection upon what has been already said concerning the education of the specialist is sufficient to show the worthlessness of such instruction as this. The Lord be thanked, we are through with our so-called surgical school, to the general benefit of mankind. The females privileged on one-fourth knowledge to practice in this school are styled with true irony upon the University books, "Educated Midwives." To the honor of the Academy of Medicine at St. Petersburgh, I may add, that it participates in no way in the erection of this school, and looks with just suspicion upon the results to be attained.

What is meant by a female gynasium in Russia is not for a moment to be compared with our understanding of this school. A Russian female gymnasium is only a better kind of public school. Entrance into it requires no preliminary training, students are not required to know how to read before entry. Upon such a preparation then is a medical education to be bolstered. Heaven protect us from such scholars.

But are the sciences, then, to remain forever inaccessible; its revelations forever secret from women? Though we may not consider the prosecution of the sciences as in unison with the design of woman's creation, yet they certainly have a claim to their acquisition under the rights common to all mankind, and they may not be withheld from women without injury to humanity.

It is only under the light of science that the prejudices and superstitions of the nursery can be at last eradicated. Every one will acknowledge the importance of such light, simply with the reminder of the great difficulty in later life of freeing ourselves completely from the prejudices and superstitions inoculated in childhood age. The female students at St. Petersburgh were right on this point made in their address to Professor Gruber.

A higher education for women, then! Let the results of scientific investigation be laid before them, and explained to them; not to withdraw them from their appropriate spheres, but to elevate them in the purpose of their higher calling—viz., the education of the undeveloped, tender, plastic creatures committed to their charge. The dignity of woman, her true worth is surely no less in this regard, than if she officiated as an immediate servant of science. The foundation stone buried deep in the darkness of the earth is of the same importance to the integrity of the arch, as the day-light illuminated key-stone in its centre.

Let man not interfere with the decrees of nature; any infringement upon her laws always has its penalty. If women would be men, they may succeed in casting away the traits of

their sex; but they can become men, never! Will they gain in dignity, can they be benefited in any way in the attempt? Never! We listen enraptured to the mellifluous tones of the nightingale; we are lost in admiration over the bold flight of the eagle towards the sun; but let them change places, the nightingale and the eagle, and neither will be the gainer. The croak of the eagle will not delight us, and the paralyzed flutter of the nightingale evokes no praise. Let every creature stay where nature put it!—*Clinic.*

ART. II.—VIS MEDICATRIX NATURÆ. By A. M. FAUNTLEROY, M. D., Staunton, Va. [An Address delivered by him, as President, to the Medical Society of the State of Virginia.]

As physicians engaged in the daily practice of the healing art, it behooves us to frequently and carefully examine the foundations upon which we should erect a therapeutical superstructure. During a long period, Physiology represented the essential characteristics of life as under the control of a unique vital force with the capacity *per se* of invoking the manifestations of organic life, directing nutrition and presiding over the reciprocal functions and actions of the organism, and constraining all organized matter to enter into certain moulds, to follow in its progressive evolution a certain direction for the development, perennity and restoration of the typical forms. This opinion is still entertained by many who would not question the relativity of the physical forces, and the consequent harmony and unity of method observed throughout inanimate nature. They cling to the belief that life obeys exceptional laws; that within the circle of organic life there is an *imperium in imperio* capable of resisting and dominating the ordinary physical forces. This so-called vital force or principle is by some enthroned as a goddess somewhere in the organism. By them she is considered as transcendently lovely; as endowed with the highest intelligence; as displaying the kindliest inten-

tions. She is regarded as being always active and always willing to assert her supremacy, and ever prompt to resist and redress all injuries committed by agents either within or without her empire.

Under pathological circumstances, this imperial power has been called *vis medicatrix naturæ*. I shall essay to show that this hypothetical entity is not the result of "*a scientific use of imagination*," but the product of that subtle fancy which gives "to airy nothing a local habitation and a name." I shall do so because the question of the existence of a *vis medicatrix naturæ*, such as I have described, is one of prime importance, as underlying all investigation into pathological phenomena—as presenting the very ground-work of therapeutics. A belief in and reliance upon such an autocratic power in the human organism must go far to establish the dominion of a most "disheartening therapeutical nihilism."

If we should accept as truth the declaration of the late Sir John Forbes, that there is an autocratic force "*possessed of sufficient power to cure the great majority of diseases without any extraneous assistance*," then the physician becomes like his literary prototype—a mere spectator, "waiting for something to turn up."

Indeed, this view of his professional office has taken such a firm hold upon the public mind, that some of the fairer and tenderer portion of humanity have become emboldened to enter the Profession. Some one writing recently in their interest, says:

> "She would blunder in physic no worse than the rest,
> She could leave things to nature as well as the best,
> She could feel at the wrist, she could finger your fee,
> Then why should a woman not get a degree?"

Such, in substance, is the belief of many within and without the Profession. Though the so-called "Young Physic" is dressed in the latest fashion *comme il faut*, still the resources of art have failed to smooth the wrinkles of his brow and remove the defects in gait which are the unmistakable evidences of old

age. Indeed, it is difficult to say exactly how old he is, for he may be as aged as Stahl or Van Helmont, or even as antiquated as Hippocrates himself. This doctrine has swayed the medical mind for hundreds of years; called by Hippocrates the *conservative principle;* the *Archœus* by Van Helmont, who saw in disease the results only of this puissant dignitary who held court-chambers in the neighborhood of the heart; the "divinity which stirs within us," by Stahl, who defined disease to be an effort of the *anima* to establish an equilibrium of the normal functions and expel injurious agents. These speculations originated during what may be styled the poetic period of physiology; yet it may be pertinently asked if the genii and spirits of that period have been altogether banished, "Far, far away, to rave and mourn on alien shores."

In the somewhat prevailing reliance upon nature in the cure of diseases, there is an implication of a presiding vital principle or force, especially designed for the protection of the organism against disturbing influences, and a confession of faith in this vital entity as a *vis medicatrix.* It is hardly necessary to adduce evidence in proof of the divisibility of this hypothetical vital force. Observation and inductive reasoning alike sustain the assertion that the actions, normal or abnormal, of the living body occur in the ultimate physiological units. Though there is a consensus in movement of the ultimate atoms composing the nervo-muscular tissues and organs of the body, yet it must be acknowledged that each physiological unit displays an individuality of function, epitomizing the movement characteristic of the aggregate. Hence the so-called vital force manifests a divisibility equal to the ultimate atoms of the body; and as various in character as the actions displayed by dissimilar parts of an organism. That the actions of the physiological units lie at the very foundation of life is clearly manifested in the possible physiological separation of the systemic and somatic actions of the organism—illustrated in the phenomena incidental to starvation. These observations would indicate the absence of an actual *indivisible* power in the organism.

The activity in the ultimate atoms is a dependent one. This position may be enforced by reference to the phenomena observable throughout the organic kingdom. The influence of the incident forces, heat and light, upon the germination of seed and the growth and fructification of plants is generally known and recognized; also heat, constant and equable, is admitted to be an absolutely necessary condition to the incubation of the the eggs of animals. In regard to the sun, the source of so many protæan forces, it has been said with beautiful descriptive by an eminent living philosopher: "His warmth rears the whole vegetable world; through it the animal. The lilies of the field are his workmanship, the verdure of the meadows, and the cattle upon a thousand hills. He forms the muscle, he urges the blood, he builds the brain; his fleetness is in the lion's foot. He springs in the panther, he soars in the eagle, he slides in the snake. The sun not only grows the cotton, but he spins the fibre and weaves the web. The sun comes to us as heat; he quits us as heat; and between his entrance and departure, the multiform powers of our globe appear."

In the processes of differentiation of a protoplasmic particle, vegetal or animal, the actual constructive power is derived *ab extra*. "For since it is proved that a germ, animal or vegetal, contains *not* the slightest rudiment, trace or indication of the future organism; since the microscope has shown us that the first process set up in every fertilized germ is a process of repeated spontaneous fissions, ending in the production of a mass of cells, not one of which exhibits any special character, there seems no alternative but to conclude that the partial organization at any moment subsisting in a growing embryo is transformed by the agencies acting on it into the succeeding phase of organization, and this into the next, until through increasing complexities the ultimate form is reached." The complex phenomena of organic life exemplified in nutrition, secretion, etc., are accomplished by the physiological units of the organism through the agency of heat, oxygen, and nutrient materials.

The results of skin-grafting, originated by M. Reverden, fur-

nishes at once a happy illustration of surgical art, and a striking exemplification of the energia of the chemical components composing the complex compounds of the physiological units. When minute portions of skin are transplanted upon an ulcerated surface, islands of cicatricial tissue may arise, widening and extending, until they coalesce and unite with the circumferential tissue. Here the molecular activity displayed was initiated and maintained by the fundamental functions of nutrition and respiration in the subject receiving the grafts, by which the nutrient materials are supplied. Though the physiological units possess an energy *in potentia*, yet the impulse of environing forces is demanded, in order that it may become an energy *in actu*. That the degree of development is correlative with the supply of nutriment, may be illustrated by the well-known experiment of Hunter, often repeated by physiologists. Speaking of this experiment, Mr. Paget says: "When the spur of the cock is transplanted from the leg to the comb, which abounds in blood, its growth is marvelously augmented, and is increased to a long, strange-looking mass of horny matter."

Having established the position that the movements of the physiological units are dependent upon the environing forces, I shall endeavor to show from observations of the processes of growth and development, that the forces, manifested through the medium of the physiological units, display an inconsiderateness utterly at variance with all ideas of the operation of an instinctive, beneficent power. The experiments of M. Ollier upon the bone-producing powers of the periosteum are familiar to all. The periosteum removed from a bone and transplanted under the skin of any portion of the body may, under the united agencies of the osteo-genetic elements and the nutritive forces of the repository tissue, produce veritable bone; yet how useless and *mal-apropos* such a regeneration would be! It is evident that the osteo-genetic elements work blindly in laying down bone where it is not wanted, and cannot subserve, by possibility, a useful purpose. If a nerve should be transplanted, and favorably conditioned, I have the experimental researches

of Vulpian and Schiff to sustain the assertion that it will regain its neurility; yet what possible good could result from regeneration, separated, as the nerve would be, from all connection with the nervous centres? The union of fractured bones with such deformity as may require the intervention of surgical art, is illustrative also of the law of necessity which the physiological units obey in their developmental activity. I confess that I cannot discern in these examples (to which many others could be added) the manifestations of a considerate agency; but I do recognize in them the power of molecular nutrition working by immutable laws to ends, good, bad, or indifferent. An organism is but an aggregate of physical units, and what has been affirmed as conditional of their activity may be with obvious reason applied to the organism as a whole. As the physiological units are incapable of originating any movement, but are dependent upon the impact of incident forces for their initial and progressive activity, so the organism cannot be regarded as the creator of a single energy, and must be considered simply as a conservator and liberator of energy either potentially or actually supplied. In the manifestations of organic life, matter undergoes alteration of form, and motion or energy may become modified and re-distributed; but an organism cannot create either, for the sum of motion, like the sum of matter in the universe, is always the same in quantity. Hence the organism as a whole is dependent, as is each unit, upon the forces of the environment for the continuance of its activity. And as the physiological units in the exercise of their inherent tendency exhibit actions wanting in every quality which would indicate the presence of a considerate and beneficent agency, it is plainly illogical to claim for the aggregated units the possession of a considerate and controlling power.

From the beautifully varied combinations and exquisite adaptation of means to ends, it has been inferred that the organism is controlled by some intelligent agency independent of and superior to the physical forces. Yet can an organism with its ever restless, inter-acting forces, adapted to secure the designed

end, present in this regard a higher claim than the whole of nature to a beneficent power? For throughout the universe matter, with its imminent forces, accomplishes the most benign and intelligent results, under purely physical law, in the display of those qualities impressed upon it by the supreme, intelligent and eternal God.

The noiseless and unobtrusive movements of physiological being are prone to occur without challenging especial attention. Hence the restoration of a part or the whole of an organism from disease or injury has been and is still regarded by many as evidence par excellence of an instinctive beneficent agency in the organism; whereas restoration of the tissues, wasted or used up in the functional movements of the organism, is the grand central law of physiological being, whether manifested in the lowest or highest phase of vegetal or animal existence. As life in health presents the highest illustration of nutritive reparation, how is it possible to regard recovery from impaired or perverted nutrition in disease as an evidence of a *vis medicatrix naturæ?* It is impossible to affirm a positive quality of what in itself is a negative. The phenomena observed in the organic and inorganic worlds are due alike to many forces in ever varying combination. As the return of the seasons and the variety of scenes which each season displays are attributable to the exquisite equilibrium of many forces, so the phenomena, various and subtle, of organic life are due to the adjustment of energia, intrinsic and extrinsic to the organism, under ever-varying conditions. In other terms, there is a correlative relationship between the forces intrinsic and extrinsic to the organism; but a vital force worthy of the name could not be other than an independent entity; possessing not almost, but altogether the attributes of an absolute power. Such an energy could not at one time incite, direct, and control the forces of the organism, and at another be correlated with, if not subordinated to, the ordinary physical forces. The convertibility of the so-called vital and physical forces, illustrated by the examples recited, establishes a relation incompatible with the

essential characteristic of an absolute and unrestricted power.

That eminent scholar and profound thinker, Herbert Spencer, has forcibly declared "that that which is *uncaused* cannot be assimilated to that which is *caused*, the two being in the very naming antithetically opposed. Between the *creating* and *created* there must be a distinction transcending any of the distinctions existing between different divisions of the created." Sustained by such high authority as to the broad distinction existing between the absolute and relative power, am I not justified in declaring that the so-called vital force is, in reality, only a *relative energy?* and, being a relative, is *per se* incapable of originating any movement in the organism, and without the capacity of self-adjustment, when that organism has been subjected to disturbance? It follows, then, as a corollary from these admitted facts that organic activity, whether manifested in the transformation of an egg into a chick, or exemplified in the production of heat, mechanical motion, the processes of respiration, and nutrition, or the genesis of forces which are called mental—all are the correlatives of preëxisting external forces.

And as all the manifestations of life, from the simplest to the most complex, are characterized by the expenditure of energy and the disintegration and waste of the very instruments employed in their execution, it becomes a condition to the continuance of the organic movements, that states of comparative inactivity should alternate with the periods of physical work; and that an adequate potential force should be constantly furnished in the food ingested and the oxygen respired. Nutritive reparation with the genesis of energy, and disintegration with the expenditure of power, constitute the essential, as well as the salient acts of an organism. But waste and assimilation are variable quantities in the equation of life. The ever varying ratio between the outgoing and incoming forces of the organism constitutes a moving equilibrium, in which the units and organs of the equilibriated system are, in life, ever acting and reäcting upon each other in the effort to attain a concord-

ance between the successive and multiplied movements of the whole organism, and the external agencies to which it is subjected. Ease and facility in the attainment of the adjustment mark the healthy progress of the organism.

Should anything from within or without arise to deflect this system from the pathway of health, either the equilibrium would be overthrown in death, or marked perturbations, with the re-distribution of energy, would ensue, until the action and reäction between the moving powers of the individual organism and the disturbing force should subside in the establishment of a state of equilibrium approximating the old. The tendency of the dynamic powers of the organism to attain an equilibrium after perturbations insufficient to accomplish its complete overthrow, is the nearest approach I can discern to a *vis medicatrix naturæ*. It does not differ in quality or nature, though it may differ in the complexity of its successive motions from the like tendency to be observed throughout the inorganic world; as, for example, the disturbance of a single atom of water, *en masse*, will communicate an oscillatory motion to every other atom, which motion must continue until the incident force has been expended in wave-work, or is transmitted into some other form of energy, resulting finally in the reëstablishment of an equilibrium between the molecular forces of the atoms of water and the force of gravitation.

From these and similar considerations, I am satisfied that all notions of a *vis conservatrix et medicatrix* as something added to and separable from the bodily structures—as something distinct from matter and its imminent forces—as a subtle material essence having no relation to any form of known energy, should be discarded from the mind of the medical practitioner as unsupported by inductive reasoning, as inconsistent with the correlation and conservation of forces.

Hence I conclude that the actions of the living mechanism, from those which occur in the organic atoms to those manifested in the organs having their established actions and reäctions called functions, are all due to the operation of physico-chemi-

cal forces, respondent to the great laws of physic and chemistry. Every disease is characterized by either a quantitative or qualitative modification of these ever-interacting forces. And as the functional perturbations of an organism in disease are attributable to a disturbance having its origin either within the organism or the environment, it behooves the physician to carefully distinguish and justly appreciate the influence of the conditions extrinsic and intrinsic to the organism. And as the recovery or equilibrium to be regained cannot be looked or hoped for through the agency of any single intrinsic force, it becomes the physician to be constantly on the watch in order that he may counteract, as far as in his power lies, those *intrinsic* conditions which oppose recovery, *by the application* of those *extrinsic ones* which are within his control.

And in order to favorably modify and reïnstate the physiological correlation of forces, the practitioner must not limit his remedies to the use of drugs alone; he should invoke the aid of the manifold forms of energy latent in food, and the materials composing the medical armory. In fine, it is the duty of the physician to endeavor to wield and direct all the incident forces, whether moral or physical—including all those circumstances which together make up the total influence of natural agencies upon the body.

As Hippocrates long ago remarked, "the sick are sometimes cured without a physician, but not therefore without physic. They have done certain things, they have avoided others. If they have blindly entrusted themselves to chance, it is in so far they have by chance approximated to the procedure of good medicine that they have been rescued from danger." It is because extrinsic conditions have not been duly appreciated in their influential bearing upon disease that we have heard so much of the natural tendency of diseases to cure themselves.

The usefulness of the medical practitioner will be enhanced just in proportion to his knowledge of the inter-dependence of forces within and around us. Though the sad sentence, "thou shalt surely die," passed upon our first parents when driven

from the garden of Eden shall continue to ring its mournful dirge, yet the physician may confidently anticipate a success in the management of diseases far transcending the present attainment, "when he can advise with certainty upon the separate and conjoint actions of the body of all the forces that bring good and harm to mankind." In the contemplation of this vast and extended field for research, *as boundless as nature itself*, there is every incentive to labor and work. Though the physician's knowledge, in this world, may never reach that fullness "when he shall know even as he is known," yet he may greatly add to his capabilities and powers for the alleviation and relief of human suffering. Though the way tending to full and complete success appears to be beset with many obstacles and difficulties, and almost interminable in length; yet, unlike the dispirited associates of Ulysses, we may find pleasure "In ever climbing up the climbing wave"; for there is an appreciable pleasure, more to be coveted than wealth or renown, in a growing capacity for doing good.

ART. III.—RŒTHELN—GERMAN MEASLES. By B. E. COTTING, M. D., Harv. [Read before the Roxbury Medical Club, March 26th, 1873.]

In the latter part of the winter, and through the spring months of 1871, an exanthematous disease, in most instances of no very great severity, prevailed in some parts of Roxbury; to such an extent, however, as to cause abundant local popular gossip, as well as frequent professional remark. It was occasionally attributed to improper diet, but cases subsequently occurring in the same households soon refuted the unfounded assumption. It was not always recognized at first as a distinct affection by medical attendants, nor, when so recognized, easily assigned to a satisfactory place in classification or nomenclature. One of our number, however (Dr. A. H. Nichols), happily hit upon a name, which was readily accepted by the laity, and

which answers well enough for all practical purposes, and for distinguishing the disease from others with which it is liable to be confounded. The name, thus originating with us, was "German Measles," a name which was also used by a writer in the "Edinburgh Medical Journal" for May, 1872, a year or more later.

Although a year seldom passes without the occurrence of some sufficiently well-marked cases, yet the number of families invaded in the early part of 1871, and the number of individuals sometimes then attacked in detached houses, caused frequent inquiry whether this affection with a foreign appellation was really a new importation, or whether any such disease had ever been heard of before in this vicinity. I was thus led to hunt up a paper which I had prepared for the Norfolk (Mass.) District Medical Society in September, 1853, and which I will now give as then read to that Society. The paper was entitled Rœtheln, and is as follows:

"During the year 1852, scarlet fever existed in Roxbury to a moderate extent; no single month being without its cases. In the early part of the present year, 1853, the disease increased, and became most frequent in the latter part of February and in March. After this time there were fewer cases, though it cannot be said to have yet (September, 1853,) entirely disappeared

"During a part of the past summer, the measles prevailed; at times so extensively as to depopulate many of the primary schools. Of late but little has been heard of this disease.

"In the latter part of the spring and quite into the summer, another and probably quite a different disease became also prevalent. It appeared as the scarlet fever declined, or about the first of April, and was quite common before the measles had reached the greatest frequency. While in some cases it greatly resembled the measles, and was called so, in others it appeared more like scarlet fever, and received that appellation. It seemed to be more directly connected with scarlet fever, and to have followed more immediately in its wake than in that of the measles. It was particularly marked in those who had previ-

ously had both scarlet fever and measles; and indiscriminately attacked both adults and children. So far as could be ascertained, it offered no protection against either of these diseases. Though at first, in many instances resembling measles, the disease would most often, in its earlier stages, appear like scarlet fever. Frequently it would suddenly change and seem to be measles; again it would exhibit appearances dissimilar to both. Persons familiar with scarlet fever and measles were puzzled in their estimate of this disease. And the frequent rumors of cases of a "double disease" (of both scarlet fever and measles at the same instant, in the same individual, who may have had both of these diseases previously), indicated an unsolved mystery or an unusual anomaly.

"As for differential diagnosis, our limited observations have not enabled us to point out any one feature so universally constant as to indisputably mark the disease. This is especially referable to the earlier stages, the history and progress of the attack leaving less doubt as it advanced. Nevertheless, the incursion differed from scarlet fever in the less severity and amount of throat disturbances; and from measles in the slight degree or entire absence of catarrhal symptoms. The rash appeared usually in spots or patches less extensive than scarlet fever; but, individually, larger in less crescentic areas than measles. After pressure, small dots or points appeared previous to the return of the uniform blush, as in scarlet fever. The eruption showed itself early, often within the twenty-four hours of the attack; was more irregular in its forms, and came out more simultaneously on all parts of the body, than in scarlet fever or measles. The rash often disappeared without sensible desquamation of the cuticle; never in the large flakes sometimes observed after scarlet fever; The duration of the rash seldom reached that of scarlet fever or measles; usually not extending beyond the third day.

"Under the different and ill-defined titles of Rubeola, Roseola, Rosalia, Rosalia Spuria, Scarlatina Hybrida, etc., various authors, both in works on diseases of the skin and in special trea-

tises, have indicated the existence of cases such as we have described. Their descriptions, however, by no means exactly cover our observations, which seem rather to agree with some of the forms described at times by the Germans under the name of Rœtheln. The "Edinburgh Journal," in 1840, and the "British and Foreign Review," in 1843, called attention to the subject; and Dr. Homans, Sen., gave an account of cases in his own practice in a paper read before the Boston Society for Medical Improvement in 1845. Whether the sketch we have now given relates to imperfect forms of scarlet fever or measles, a so-called "bastard" or hybrid, or to what will prove to be a distinct disease, must be determined by the combined experience of future observers; but when we reflect that it is hardly more than half a century since the diagnosis between scarlet fever and measles was definitely decided and accepted, it will require no very great effort to admit the possibility of another disease intermediately between the two. At any rate, the present confusion is disagreeable, and often embarrassing; and what is of more consequence, may, through careless diagnosis, lead patients into unnecessary exposures by supposed previous protection.

"The foregoing description of rœtheln, as it appeared in this neighborhood about twenty years ago, would answer, so far as my own observations have extended, equally well for the disease in 1871. In both instances it was epidemic, and attacked those who had previously had, as well as those who had not had, scarlet fever and measles. When one member of a family was seized, others generally were afterwards taken down; and in these cases there seemed to be an incubation of about three weeks; a longer time than usual with scarlet fever or measles.

"In both these epidemics, and in scattered cases seen in the interval, the opinion, then based upon independent personal observations, has been strengthened and confirmed, that there is in these cases a specific disease, to be accepted as such, and to be distinguished from other affections most likely to be confounded with it.

"Rœtheln is not a new disease (if in fact there are any such), but, whenever noticed, it has most frequently been treated of as a variety of some other affection. Though the term "rœtheln" has been in use, at intervals, for more than a century, descriptions under it as given from time to time, have been so mixed and so confused that they can seldom be referred to one and the same disease, and are often irreconcilable with each other. A short summary of what has been published, properly systematized, and relating unequivocally to the disease we have endeavored to describe, would be of great service.

"In the first number of a new periodical, the "Révue des Sciences Médicales," January, 1873, received here only a few days ago, and since the above was written, there is an analysis of an article by Professor Thomas, of Leipsic, on an epidemic of rœtheln, as it prevailed in the city of Leipsic in 1872, which so remarkably confirms the observations made here in 1852, and since that time, that an abbreviated translation will form a fitting conclusion to the present paper. From cases in his own practice Professor Thomas concludes:

"Rœtheln is a specific contagious exanthem, which should be kept clearly distinguished from scarlet fever and measles.

"The duration of the incubation of the disease varied from seventeen to twenty-two days. The eruption was often the initial phenomenon; and there was no constant prodromic stage observable. Frequently the eruption appeared in children who had previously shown some catarrhal symptoms. Some had a slight injection of the conjunctiva and irregular redness of the soft palate and pharynx, with slight difficulty of deglutition, generally of a temporary character. The injection of the palate followed the same changes as the eruption itself, and disappeared at the same time as the latter.

"The eruption, in general not very abundant, appeared in spots, isolated, sometimes slightly curvilinear or elliptiform, most frequently of a bright red color, occupying all parts of the body. It was most abundant on the face, forehead, cheeks, and chin; being frequently accompanied by slight œdema in

these parts. Sometimes the hairy scalp was invaded. Less confluent on the neck and trunk, it was even more discreet on the limbs, the thickness of the epidermis almost completely obscuring it on the soles of the feet and the palms of the hands. These spots were more rounded, less jagged, more maculated, less papular and less prominent than those frequently seen in the early eruption of measles; though there were cases where the similarity was so striking as to render distinction at first quite difficult.

"The duration of the eruption was generally short, averaging three days; and desquamation was never observed by Professor Thomas in his cases, which ranged from children of three years to an adult of thirty-five years of age.

Professor Thomas insists particularly upon the distinctive thermic characteristics between rœtheln and measles. In rœtheln the thermic elevation, if any, shows its maximum on the appearance of the eruption, which in itself is very precocious; while regular measles may be distinguished by an initial fever preceding the eruption, and by having the greatest thermic elevation when the exanthem attains its height.—*Boston Med. and Surg. Jour.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

On Version by the feet in Cases of Contracted Pelvis ("Centralbatt für die Med. Wiss.," Dec. 21, 1872; from "Archiv. für Gynæcol.," 1872, iv. Heft 2).—S. Borinski gives a résumé of the labors in three hundred and sixty-seven cases of contracted pelvis, observed in the gynæcological clinic at Breslau from August, 1865, to February, 1872, and seeks, by comparing the results of turning with those of all other modes of proceeding, to throw some light on the question of the propriety of that

course. The experience at Breslau is against it, since of ninety-three children delivered by version, only thirty-four lived; thirty-nine died during or soon after birth (twenty were already dead), nine of whom were killed by perforation, while of three hundred and twenty-two children born by the head, only ninety-four died. According to the tables appended, which registered only forty-five cases of version, the relation is the same, the head-presentations being 29.2 per cent., the versions 53.3 per cent. of the dead children. Of the mothers, fifteen died after version, but only three, seemingly, in consequence of the operation. From these statistics the author takes ground against turning as a prophylactic measure, and would limit its employment to urgent and complicated cases. Only in very extraordinary anterior or posterior vertex-positions should it be resorted to. In two cases of asymmetrical pelvis, the head passed the shorter diameter easily after turning, while previously it had been arrested in the longer. In repeated deliveries in the same women, changing to head or pelvic presentations, the results were quite contradictory. In prolapse of the cord or of a hand, the reposition was generally accomplished with success, only failing once, and even face-presentations came right; while in seveal cases of the latter kind in which version was resorted to, five children died.—*Phil. Times.*

Sarcosin in Gout.—At a recent meeting of the Berlin Medical Society, Dr. von Langenbeck exhibited some specimens of gouty concretions, and said that it was his intention to try sarcosin in one of the cases. Dr. Liebreich said that the physiological action of sarcosin had been investigated by Schultzen. It appeared to become substituted for one of the atoms of hydrogen in urea and also (in birds) uric acid, enabling soluble combinations to be formed.—*Berliner Klin. Wochenschr.*

The Therapeutic Value of Bromide of Potassium.—M. Volsin completes an elaborate report on the history and properties of this valuable drug, which has extended over several numbers of the "Archives Générales de Médicine," by a discussion

of its therapeutic value. He divides its action under two heads—a sedative action on the spinal cord and medulla oblongata, and a constrictive action on the muscular fibres and capillaries, which is seen in the anæmia of the organs and tissues which it produces. The first action explains its efficacy in the states of disease accompanied by excitement of the cord and medulla, such as epilepsy, chorea, simple and traumatic tetanus, spinal irritation of hysterical patients, painful paraplegia of nervous females, and pains and cramps of spinal origin. It is, on the other hand, useless in pains of peripheral origin, gastralgia, and in general in painful conditions which have not a special origin. By its second action, that of anæmiating the tissues, it is useful in simple congestive visceral affections, and where no neoplastic effusion exists, as in simple meningo-cerebral congestion; but it is useless in chronic diffused meningo-encephalitis, and other inflammatory affections accompanied with plastic exudation or proliferation of tissue. This action makes it useful in spermatorrhœa, and in diminishing buccal, pharyngeal, and vaginal secretion, as in simple leucorrhœa.

Its efficacy in epilepsy is incontestable, even where a great number of attacks have occurred (4,000); or when the disease is of long duration (fifteen years). Cure is interferred with by organic cause—hereditary tuberculosis and alcoholism, malformation of the brain, onanism, plastic effusions, sclerosis, clots, softening, conditions often causing loss of special sense or motor power. Menstrual epilepsy is less favorably effected by the bromide. On this subject, M. Voisin gives ample details. As to tetanus, he observes that most of the wounded soldiers at the Saltpetriére during the siege of Paris, who had tetanus, suffered for some days previously from clonic spasm of the limb when it was touched or during the dressings. Warned by this observation of soldiers in neighboring wards, he administered the bromide in full doses in all such cases in his own wards (6 to 11 grammes a day). None suffered from tetanus, although one of them presented the first phenomena of tetanus for twenty-four hours. He relates three cases of well marked traumatic

tetanus, uninfluenced by chloral, in which cure was effected by bromide of potassium in an initial dose of 8 grammes (120 grains), and three subcutaneous injections of morphia during the day in the right thigh.

Bromide of ammonium has not seemed to him to produce quite the same effects as bromide of potassium. The bromide of sodium he regards as having an identical action. The bromide of cadmium produces vomiting, which renders its administration impossible.

M. Voisin insists that, vast as is the field of usefulness of bromide of potassium, its employment must be restricted to cases in which the spinal cord is excited, and needs to be tranquilized; and to those in which there is reason for exercising a constrictive action on the capillary vessels and anæmiating the tissues. Beyond this range of cases, the employment of the bromide is, he thinks, out of place; and it would injure the reputation of this medicine to employ it against all painful sensations, of whatever character and whatever origin they may be.—*Brit. Med. Jour.—Clinic.*

The Action and Physiological Elimination of Mercury, etc.—Conclusions by Dr. Mayencon and Bergenet:

1. Mercury and its salts are absorbed by the skin as well as by the stomach.

2. Of the mercury absorbed, one part—the greatest part—is immediately eliminated, while the other—the least part—impregnates the tissues, to be eliminated only insensibly, but nevertheless, quite rapidly, unless the impregnation shall have been profound by reason of long-continued usage.

3. The elimination seems to take place by all the excrementitious fluids, but chiefly by the urine and by the intestinal juices.

4. The iodide of potassium has a decided action in disembarrassing the organism of mercury that has become fixed.

5. The mercury rendered up by the excrementitious juices, by the milk, and especially by the urine, is easily recognized by

a single element of the voltaic pile—iron and platinum—which fixes the mercury in a metallic state upon the platinum; this metallic mercury being converted by chlorine at first into the bichloride, and afterward by a solution of the iodide of potassium into the red iodide of mercury.

By the same method we have undertaken investigations to determine the action of different metals; we are in possession of results already with regard to gold, silver, lead, etc., which we shall communicate at a later period.—*Lyon Medecale.*

Ammonia Injections in the Treatment of Collapse.—Dr Züler has been led to have recourse to the following energetic stimulant in the collapse of typhus: Essence of aniseed, 1 part; alcohol, 24 parts; liquor ammoniæ, 5 parts. He has employed it in doses varying from 15 to 30 drops, one injection being made in each limb, in cases where the pulse has been irregular and scarcely perceptible, the face cyanotic, the extremities cold, the voice extinct, etc. Under the influence of the injections, all the bad symptoms have, he says, been dissipated. Occasionally, small abscesses have occurred at the points of injection, but without evil consequences. He thinks this mode of treatment suitable not only to the collapse of typhus, but of cholera and pernicious fevers, and narcotic poisoning. It resembles, of course, Dr. Halford's treatment of snake-bites.—*Exchange.*

On the "Pointed Ear" in the Human Species.—In "Virchow's Archiv., B. LIII., Th. IV., Professor L. Meyer, of Göttingen, criticises the assumption that the pointed ear in man is a relic of a lower species. Readers may remember that in Darwin's book on the "Descent of Man" there is a paragraph, illustrated by a wood-cut, in which he asserts that certain processes which occasionally occur in the ears of men, are of a similar nature to the points in the ears of apes. These pointed processes are situated on the anterior margin of the helix, near its upper part. The author of the present paper points out, however, that in most human ears there are irregularities in the

development of the helix, especially at this part. In some cases the helix is almost entirely wanting, in some there are greater or smaller gaps in it; and what Darwin looks on as points of processes, are really produced not by an outgrowth from the helix, but by gaps existing on each side of the apparent process. A case is given where the helix was absent, but at intervals there were small knobs, three in number, which were all that represented the rudimentary helix. It is therefore concluded that Darwin's pointed ear is no indication of a return to the ape-like form.—*Butler's Compend.*, January, '73.

Vaccinal Syphilis.—A second report of the communication of syphilis in the practice of vaccination. By Jonathan Hutchinson, F. R. C. S.

Characters of the Vaccination Chancre.—It begins as a little red, firm, glossy, tubercle, which gradually increases in size, and becomes harder. In about a fortnight it usually ulcerates, the sore giving off but very little discharge, and with a hard base and edges. If no mercury be given it may remain open for several months; in one case it probably became almost phagædenic. Sometimes there is from the first a good deal of inflammatory effusion at the base of the sore, and much purulent secretion and scab on its surface; it specific characters may be thus quite hidden. These cases are generally in children.

Treatment of the Vaccination Chancre.—Mr. Hutchinson felt no doubt that, should a vaccination-scar take on the induration characteristic of a chancre, and should the other facts of the case corroborate the suspicion, it was the surgeon's duty without delay to commence the administration of mercury. The influence of mercury in retarding and greatly diminishing the severity of the primary and secondary symptoms was most marked in all those cases which came under care at an early period (sixth week), as in the first series. Indeed, in this series the eruption was so retarded as to induce skepticism in not a few minds as to the correctness of the diagnosis; several of them, however, from five to seven months after vaccination had, undoubted, though mild, secondary symptoms. In the second

and remaining series of cases, however, the disease was not discovered until much later, and most of them suffered very severely from secondary symptoms, the last two cases (third and fourh series) particularly so. As regarded tertiary symptoms, it was as yet too early to say anything.—*Clinic.*

On the Morphology of the Female Mammary Glands.—Prof. C. Hennig, of Liepzig, gives an account in the "Archiv. für Gynäkol," ii., p. 331, 1871, of the anatomy, physiology, and pathology of the mammary glands, which will be of interest to surgeons. He gives a summary of his investigations. Of 1425 cases of disease of these glands, the *right* was affected more frequently by one-half. Scirrhus especially affects this side. Prof. Hennig accounts for this: First, because the right gland projects more, in consequence of the right half of the thorax being more arched; it is thus more exposed to external injuries; second, in consequence of the habit of using the right side more than the left, the corresponding gland is called into action, though in a minor degree, more frequently than the left, and becomes somewhat warmer. As regards mastitis, another cause is that the right gland is somewhat larger than the left, and as sucklings, owing to the size of their liver, prefer the left breast, milk stagnation occurs more frequently in the right than the left. After describing a method of measuring and weighing the mammary glands and making some interesting observations on the weight of them, and the size of the areolæ in virgins, he says that the weight and diameter increase a little at each menstruation, and that sexual intercourse develops Montgomery's glands more than the size of the areolæ. Pregnancy, especially the first, develops the areolæ and the weight. After making some observations on the proportion of the areola to the gland, the weight of the gland with and without its covering of skin, and the details of conformation, he makes two observations which have a medico-legal bearing. The first is that the virgin breast approaches the mathematical hemispheric form more after death than during life, because the areola

during life gives a more pointed form to the mammæ. The second is, that women who have borne children also preserve after death the hemispheric form. This is only an aid to the examination of the sexual organs.

Atrophy of the gland may be induced by puerperal fever, phthisis, and chronic pleurisy. In excision of the breast for cancer, the superior external fringe must be removed. Professor Hennig advises the removal of the whole gland. At the base of the gland lie from six to seven rows of smooth, muscular fibres, which sometimes become partially hypertrophied, forming the fleshy breast" (fleisch brust).

Among the diseases met with in these numerous examinations, the author mentions rigid arteries of the glands, cysts, and emphysema, due to septicæmic pneumonia and pericarditis, and also a case of *gummatous* deposits, which he says is the first that has been dissected. In the middle of the right breast a gumma 6 mm. long, 7 mm. broad, and 3 mm. thick, was found between the lactiferous ducts, displacing them but little; it was caseous in its centre. The deposit in the left breast had the same dimensions as that in the right, except that it was only 2 mm. thick. From both these nodes flat nodules proceeded towards the circumference of the breast, and in the left breast rather œdematous connective tissue mass. The author concludes with a reference to the relation between the parotid and the mamma and testicle in inflammation of these latter organs. *Schmidt's Jahbucher*, B. 154, No. 4, 1872.—*Brit. and For. Rev.*, Jan. '73.

The Remedies for Tape-Worm. By T. Spence. Cobbold, M. D., F. R. S. (*Worms; a Series of Lectures on Practical Helminthology:* London. 1872. Pp. 178).—"The remedies for tape-worm," Dr. Cobbold writes, "are male-fern, kousso, kamela, turpentine, panna, pumpkin-seeds, and pomegranate-root bark. The right administration of any one of these is likely to produce the desired result; but many other drugs have been and still are employed with more or less success. Patients have

consulted me after trying five or six of the above-named remedies, to say nothing of others not worth mentioning. Some practitioners seem to think one vermifuge as good as another. Because they find santonin a useful remedy in thread-worm, and almost a specific in round-worm, it by no means follows that the same drug is effective, or even of the slightest value, in tape-worm. When so many excellent tape-worm vermifuges abound, it becomes a waste of time to dwell on the virtues of second and third-rate drugs, such as oxide of silver, tin, scammony, jalap, and various other drastic purgatives, which exert no poisonous influence upon the worm. Dr. Shapter, of Exeter, has employed chloroform with success; at least, speaking of one or more cases thus treated, he says 'the cure was effectual and without distress of any kind.' Now, supposing it was really necessary to try several drugs in succession, I would recommend their adoption separately in the order I have just placed them. Of course, in no individual case will you ever be called upon to indulge in such a practice. Without asserting their actual relative value as tape-worm poisons, I give them a preference in the order in which they are here recorded. Probably, as I have elsewhere said, there is no better remedy for tape-worm than oil of turpentine, and yet its nauseous character, combined with the fact that it not unfrequently produces irregular and violent effects upon the nervous system, are circumstances always inducing me to substitute other drugs. From cases which have come under my notice, I have no doubt whatever as to the great althelmintic virtues of turpentine."—*Exchange.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—LOUISVILLE CITY HOSPITAL REPORTS—SURGICAL CLINIC OF PROF. J. M. HOLLOWAY. Double Amputation through the Metatarsal Bones (Modification of Heys' Operation) for Severe Frost-Bite. [Reported by H. ATCHISON, WEST, M. D., House Physician.]

Basil Gardner, a deaf mute; negro laborer; aged thirty-five; native of Kentucky; entered January 31, 1873.

Previous History.—About two weeks before admittance (January 17th) he was brought from the pest-house, having just recovered from small-pox, and left upon the street, with but little clothing, during the whole of a very cold night. The result of this exposure was a severe frost-bite of the toes of both feet. He was taken to a negro house, where he remained with scant accommodations as to food and clothing, and an entire lack of medical attention, until he was brought to the hospital.

Condition upon Admittance.—His general condition is good, considering the hardships he has undergone. Appetite ravenous; tongue large and flabby; bowels regular; pulse 90; temperature 99°; skin dry and dirty; urinary functions properly performed; sleeps well. The toes upon both feet were found in a gangrenous condition, the lines of demarcation had formed upon each, and ulceration through the soft parts had taken place in most of the toes between the proximal phalangeal and the metatarsic-phalangeal articulations. In several instances the spontaneous amputation had been completely performed, the necrosed ends of the bones alone remaining.

He was taken to the amphitheatre upon the day of admittance, when the remaining toes and the necrosed bones were removed, leaving a large, florid granulating surface. A dressing of carbolized oil was applied, the patient placed upon the best diet, and ordered to take quin. sulph., three grains, every three hours while awake.

February 11*th*.—Owing to the large granulating surface, the cicatrix of which would prevent the patient from walking with comfort, it was deemed advisable by Professor Holloway to amputate the feet through the metatarsal bones, expecting to secure a cicatricial line above the plantar aspect of the foot, thereby enabling the patient to walk with comfort. The amputations were performed in the presence of the medical classes of the Medical Department of the University of Louisville and of the Louisville Medical College, under the direction of Prof. Holloway, one by Dr. H. A. West, and the other by Dr. Thos. D. Gardiner, (House physicians). The dorsal flap was made by making an incision commencing at the tubercle of the fifth metatarsal bone, bringing the knife forwards and upwards, cutting as near the web of the toes as possible, and bringing it to a point upon the opposite side of the foot. This flap having been dissected back, the foot was transfixed, the knife brought out, keeping close to the bones. Some little trimming of the flaps was necessary. The hæmorrhage was slight, requiring the ligation of a small vessel upon either side. A few sutures were introduced to retain the flaps in position. Carbolized oil upon lint and a bandage applied.

The pulse just prior to the operation was 85, temperature 99°. After operation: February 12, A. M., pulse 112, temperature 102½°; February 12, P. M., pulse 108, temperature 101½°; February 13, A. M., pulse 112, temperature 100½°; February 13, P. M., pulse 112, temperature 101 2-5°; February 14, A. M., pulse 100, temperature 99½°; February 14, P. M., pulse 100, temperature 100½°; February 15, A. M., pulse 112, temperature 99½°; February 15, P. M., pulse 90, temperature 99 3-5°; February 17, A. M., the temperature and pulse became normal for the first time; since that time the temperature has remained for the most part normal, occasionally rising a degree or a degree and a half higher in the evening; the rapidity of the pulse being proportionately increased.

February 28*th*.—At this time the condition of the patient is excellent. His appetite is good; he is gaining strength and

flesh rapidly. The flaps have united by granulation almost completely. The results of the operations, as far as can be foreseen, bid fair to be eminently satisfactory both to the patient and surgeons.

May 1*st*.—The patient has been able to walk the wards of the hospital without pain. Feet entirely sound, and cicatrices above the line of greatest pressure of a shoe. The ball of the foot turns up and furnishes a soft cushion for the adaptation of a properly constructed shoe.

June 13*th*.—The patient left the hospital recently. He has been wearing shoes, the toes of which are stuffed with cotton. His locomotion is remarkable for ease, and almost entire absence of limping.

ART. II.—A SYNOPTIC RECORD OF CASES. By HENRY V. GRAY, M. D., Richmond, Va., Formerly Surgeon of Artillery C. S. Army; Late Professor of Anatomy and Physiology Roanoke College, Va.

A change of locality in a physician's life necessarily leads to long, weary hours of inaction, and to a painfully perturbed spirit of suspense and reckoning over his future professional career, and "to still the beating of his heart," he naturally turns his thoughts to his books and notes, hoping to find consolation there. These hours are too frequently exhausted in fruitless efforts to "kill time" by social gatherings and visiting the various places of public assembly, hoping to make friends, and thus the earlier introduce ourselves into professional notice, as "wife and children" becomes a powerful stimulus to our efforts. But few of us are endowed with that Christian spirit of Martin Luther, when, in his last will and testament, he utters the remarkable words, "I thank thee, O Lord, that thou hast been pleased to make me a poor and indigent man upon earth. Thou hast given me neither land, nor money, nor house, but wife and children. Watch, nourish, and protect them as thou hast me."

In the death-struggle between reputation and support, which we so frequently have to encounter, we pursue many points of policy to find the magnetic centre, but the charm is in individuality. With some, "good humor only teaches charms to last," whilst others in their awkwardness possess a grace of incalculable worth, and with others,

> It is not rank, nor birth, nor state,
> But the get up and get that makes men great.

My only excuse then, dear reader, for presenting this record of "stale and unprofitable" matter for your kind consideration, is to prevent "that light" so often the offspring of "pent-up sorrow." In this metamorphosic change from country to city, I'm reminded of a question once asked by that humorist and distinguished physician, Gray Latham, which was, "Would you like to have more sense than you look to have, or look to have more sense than you have?" Now, in my present extremity, I have but little difficulty in deciding; "I would like to look to have more sense than I have." But I'm encouraged in my efforts by knowing that Jenner, "an old cow doctor," was a country physician.

Most of these cases I'll be forced to report partly from note and partly from memory.

CASE I.—*Chatonne Vesicæ or Hour-glass Contraction of Bladder.*—Called to see Bishop John Early, of Virginia, under urgent message, at 5½ o'clock A. M. Upon entering his room at the hotel, found him walking backwards and forwards as if in great pain. He requested me to introduce the catheter at once and empty the bladder, from which his suffering proceeded. I made an examination over the bowels, and found a circumscribed swelling near the pubes, rather hard, and about the size of an orange. I passed the catheter without much difficulty and drew off half a pint of urine, but without any diminution of swelling or pain. I ordered poultices over the region of pain, which he thought relieved him some. Retired, but was disturbed at 7 o'clock again, to find my patient worse. Introduced catheter and drew off half a pint of fluid, but with same result.

The tumor now became quite painful under pressure. Continued warm applications, and ordered internally tinct. belladonna, hyoscyamus, camphor, and tartar emetic, with view of relaxing system, as my mind was rather inclined to the belief that some spasmodic action was at work. Visited my patient again at 10½ o'clock A. M., found him quite drowsy, with considerable inflammatory action setting up, as I imagined, but afterwards concluded the increase in pulse, etc., was due to belladonna and retention of urine. I now gave him internally, leaving off the other medicine, spts. turpentine, belladonna, and sweet spirits of nitre, with starch and laudanum injections into bowels. Returned at 3 o'clock P. M. to find my patient much better; the tumor had vanished, and in its stead a well-distended bladder. Passed the catheter and drew off some three pints of turbid urine, upon which the excitement rapidly abated, the drowsiness gave way, and he expressed himself entirely free from pain, and was ready to travel the next morning. I'm not aware of any authority for calling this a case of hour-glass contraction of the bladder; but in following this case from its commencement to its termination, the singular circumscribed tumor remaining after repeated use of the catheter, and its sudden cessation, followed by a full distended bladder under the stimulus given to the kidneys, after relaxation of offending fibres, and the rapid convalescence of the patient, go to show pretty conclusively that the tumor must have been the result of chatonnement of bladder, and the anatomy of the organ supports the supposition. I'm inclined to think the constriction due to spasmodic action of the irregular circular fibres, together with the oblique fibres of Sir C. Bell.

CASE II.—*Acute Acid Vomiting of Pregnancy.*—In March, 1871, the following quite novel case fell under my observation: The patient, a married lady, aged twenty-five, was taken in the seventh month of pregnancy with painful and difficult vomiting, with disposition to uterine contractions. Supposing it was near her term, I did not deem it necessary to administer anything for her relief; but as a placebo, I ordered three grains of

oxalate of cerium and five of bicarbonate of potash, to be given at intervals of six hours. The disposition to miscarriage passed off, but the difficult vomiting continued, with great complaint of an acid taste with the smell of vinegar. This suggested to me the importance of an alkaline treatment, so I considerably increased the amount of bicarbonate of potash in the prescription, and directed its continuance. The patient not finding any relief from this treatment after several days' use, I left it off, and ordered a blister over the stomach, with one-third of a grain of aqueous extract of opium. This was continued for nearly a month, using it (the opium) every night and morning, with the application of six or seven blisters during the time. I imagined the patient received some benefit from this line of treatment, but it was very plain to all that exhaustion was rapidly on the increase, and that something must be done soon, or my patient would perish. My attention was again called to this smell and taste of vinegar, and by inquisitive patients I was asked repeatedly the cause of it, all of which I did'nt know; but, of course, looked wise, and used "big language" to cover my ignorance. I now addressed my attention to the "acid vomit," which I regarded rather singular, as an alkaline course didn't have any effect. I concluded to test the matter to see if it was really acid; so I took out a piece of litmus paper, and calling up several of the inquisitive ones, informed them, with scientific explanation, that I would now put this little piece of paper in the matter vomited, and that it would instantly change its color to a bright-red. With this explanation I proceeded to execute my plans, so in I put the little piece of paper, but to my surprise and that of my audience, the paper held fast to its color. I was so much disgusted with its obstinacy I almost swore vengeance against it; but, upon reflection, forgave it, and turned my curses upon an ignorant brain. My only idea now was to nourish my patient and attempt to sedate the sensitive stomach by prescription of subnitrate of bismuth, hydrocyanic acid, and elixir valerian, which I placed my patient upon, with a generous diet of beef-tea, milk, and lime-

water, and abundance of whiskey. This was persevered in until May 5th. Finding my patient, at this date, still on the decline, with great emaciation and exhaustion, with feeble voice and sunken eyes, pulse hardly perceptible, with profuse, clammy sweat, I ordered, without delay, a large draught of whiskey, intending to give thirty grains of quinine with it, but for some cause I didn't, using under the excitement of the moment (which I had ordered near by) the galvanic current, under the impression that this prostration of system might be due to some poison of the sympathetic nerve. I accordingly applied twelve cells of Jerome Kidder's galvanic battery; applying the positive pole or electrode in the auriculo-maxillary fossa, and negative just above the manubrium sterni, by the side of the sterno-cleido-mastoid muscle, in order to affect the cervical sympathetic and pneumo-gastric; but in closing the circuit, I found decided tenderness along the tract of the sympathetic, and decided increase in patient's nervousness. I recollected at once I had made a mistake in closing the circuit with negative instead of positive electrode. I changed this instantly. Under galvanic influence I noted increase of pulse, the temperature rise, and more animation. Discontinued action after an application or seance of from two to three minutes, and ordered another dose of whiskey with beef-tea, and for the patient to be rubbed with coarse, dry flannel until dry, with free use of friction along the spine. It was perfectly positive there was a change for the better; the vomiting continuing at very long intervals in the next twenty-four hours, with entire cessation of that peculiar acid taste and smell like vinegar. Continued to use battery, with the addition of one cell, every other day until the 16th of the month, when patient was delivered of a fine daughter.

From time of commencing the use of battery, until the day of her accouchement, she continued to improve; the vomiting ceasing on the fourth day. Stimulants and diet being the only adjuncts to the treatment. This patient has never recovered her strength, and is still very much emaciated, suffering at

times a good deal with dyspepsia and constriction about her head, and drawing sensation in the back of neck. I think a thorough course of galvanization and faradization would be beneficial to this patient, but she will not acknowledge she is an invalid, and continues faithfully in the performance of her domestic duties. I very much fear this patient will ultimately perish with some of those horrible diseases like chronic spinal meningitis or cerebral sclerosis. I hope this case will throw some light upon the pathology of acid vomiting of pregnancy spoken of by M. Chomel.

CASE III.—*Neurosthenia of Toes in Pregnancy.*—The only feature in this case thought worthy of notice, was the incessant irritability of the toes, kept up doubtless by the pressure of the gravid womb, but which obstinately refused to be comforted in any position the patient might assume. This poor patient suffered at times with the most excessive pain; and often, to prevent my sympathy from being enlisted beyond my control, I have left the room, using the remedy, however, I thought best before retiring. I was more successful in obtaining relief to her sufferings from hypodermic injections of atropia and morphia, together with gentle friction, than with anything else; yet I found always prompt relief from applying fifteen to twenty cells of battery, with positive electrode over toes and negative over sacrum for five to ten minutes once or twice daily, but it was not as permanent in its effects as the hypodermic injection.

CASE IV.—*Otorrheumatismus.*—The name here given is intended to embrace that class of ear-aches not attended with special inflammatory action, but brought on by atmospheric changes. It commences as slight tingling, warming sensation, rapidly passing into severe boring pain in the ear, as if it was making its way to the brain. If the pain is not speedily relieved, the patient becomes delirious, and is totally incapable of any control over himself, throws his head in every conceivable position, with the pitying cry: "My brain is sick, my brain is sick." I have witnessed several cases of this disease, and have frequently suffered with it myself. I have found the following

treatment the most reliable. During the attack you cannot generally place your enemy too soon *hors du combat*; and for this purpose I administer freely opiates and whiskey, repeating it every fifteen to thirty minutes in rapidly increasing doses, until the patient is made drowsy, with husky voice and itching of skin. As soon as these symptoms set in, I desist, knowing the patient is over the attack. He now commences to void large quantities of limpid urine, and instead of feeling uneasy about the amount of opium, for fear he might fall to sleep, I know too well that my patient will not have time to sleep probably for the next twelve hours, as he will have to "scratch for dear life," so intense is the itching. I generally prefer laudanum to any other preparation for internal use, as it exerts a more powerful action, or morphia and atropia for hypodermic use. As local applications during paroxysm, I use a mixture of equal parts of chloroform and spirits of ammonia, saturating a piece of cotton in the mixture; this I apply over mastoid process as a counter-irritant, to prevent reflected irritation to brain; keep up during the attack warm applications to ear and hot bricks to feet. As preventives, I would advise correction of digestion and urine troubles; keep the body uniformly clad; use the stimulating shower-bath in summer time for a few minutes daily, say (10 o'clock A. M.) with a rapid friction, drying immediately the body, and a stimulant of brandy and ammonia or tincture of capsicum upon finishing; use large quantities or doses of saccharated carbonate of iron, three times daily, for from one to three months, giving quinine whenever indicated. Would advise such local measure as will overcome the sensitive condition of the ear, and such as would exclude a damp, chilly or windy atmosphere from contact. I have found a most excellent little instrument in the "aurilave," which every one should have for his toilet; it is patented, but not the less valuable on that account; it keeps the ear perfectly clean, and from the flexible adjustment of the delicate sponge, you can gradually rotate it in the ear to the drum, returning it in the same way without any danger of injury to the drum, and you should only

hold it loose like a pin in introducing it. Make a lotion of tincture of veratrum, morphia, and aconite, and one of glycerine, tannic acid, and aqua rosæ distilled, and use them alternately once or twice daily, by means of the "aurilave." I have found a little pure whisky very good applied in this way. By these lotions you can accomplish a good deal, as you thus render the organ less sensitive. As general constitutional remedies, I forgot to mention iodide of potassium, corrosive sublimate, and colchicum, should any special poison be in the system to indicate their use.

CASE V.—*Hysterical Spasms from Odontosteresis.*—Mrs. B. was taken suddenly with violent convulsions, with spastic action of glottis, producing a picture of the most intense apparent suffering upon her features. Upon entering the room, I at once called for some valerian or assafœtida, having received some probable information as to the nature of the case from the messenger. I was handed a piece of gum assafœtida, which I placed between the patient's lips, with almost instant relief. I advised her to go to the dentist and have a peg tooth inserted, which she did, but she told me whenever the tooth would fall out, whether sleeping or awake, the most violent dyspnœa would set up, but that she retained her faculties in other respects. She gives the following account of her first attack: "I was sitting in my room, perfectly well, on the day of my attack, eating some fruit, when I felt one of my front teeth give way and crumble in my mouth; but it didn't make any impression upon me until I went to the looking-glass, and saw the hideous appearance it gave me, when I suddenly lost all control of myself, and was totally unconscious of my situation." To prevent a return of this dyspnœa, which followed whenever she lost her tooth, I directed her to have a permanent one inserted. This was a very sensitive nervous system, and a great respecter of good looks.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

Cerebro-Spinal Meningitis.

Davison City, Texas, April 12, 1873.

Dr. E. S. Gaillard:

Dear Sir,—I present the following observations noted during the last two months, with the hope that they may prove of service to the Profession, and through them to the communities in which they live.

Early in February, as the winter commenced to break, cerebro-spinal meningitis first made its appearance; all of those attacked at first died. I do not know of a single recovery until ten or twelve deaths had been recorded. Alarm was written upon the faces of our citizens; they lost confidence in their physicians, and went about in fear and trembling lest they should be the next victims.

Cerebro-spinal meningitis or spotted fever, as it is vulgarly called, is usually preceded by promonitory symptoms, probably a vague sense of uneasiness or a queer feeling about the head as they turn it; also headache, and the muscles of the neck feel sore to some extent. This train of symptoms may continue for several hours, until a decided chill ushers in the attack; violent pains in the head, back, and limbs now set in, constantly increasing in severity until the sufferer becomes delirious. The patient has alternately a sense of heat and cold, the temperature being only slightly elevated. He attemps to rise from his bed, and can only be confined by several stout assistants; the pupils dilate easily, and remain so; objects appear double; the pain increases in the head and neck, with a disposition to muscular contraction backward, until a complete opisthotonos is presented; yet this symptom is not always presented, but is so in a majority of cases; insensibility and death close the scene.

The pain in the earlier portion of the attack very much resembles the muscular pain of Dengue or break-bone fever. Sometimes only one foot is the subject of pain; again, the side, generally the left; but the head and neck never escape. The pulse varies from 60 to 100; the temperature is slightly elevated, even after death, and the disease in no respect resembles our malarial pernicious fever, for which it was mistaken by a great many practitioners.

Concerning the nature of cerebro-spinal meningitis, I have not decided in my own mind whether it is an inflammatory affection or a rapid blood poison expending its force upon the brain and spinal column. Having no opportunity to make autopsies, I cannot investigate it as I would desire.

The cause is evidently some atmospheric poison, the favorable conditions for the development of which are cold and damp, with the prevalence of east winds. I observed that during each cold east wind that has prevailed this spring, the number of cases augmented alarmingly; and as the weather would clear off, with a south or west wind, the cases would almost all disappear.

I now come to the most important part of this paper—the treatment—and I am convinced from my experience that cerebro-spinal meningitis can be cured if the physician can see his patient early enough. I will briefly give my treatment, and I have lost but one case in the last twenty patients, and that was under the most unfavorable circumstances. As soon as I see a case I at once prescribe bromide of potassium in forty to sixty-grain doses every hour until the head is relieved; quinine in ten-grain doses every hour until forty or fifty grains have been taken. The combined effect of the two remedies seem to fulfil the indications, yet either alone is useless.

The bromide of potassium is said to cause contraction of the small arteries of the brain, thereby limiting the supply of blood to the great seat of disease. Quinine in full doses is sedative, thus fulfilling another indication. Even as I write I have three cases convalescing under the above treatment. I always give

ten grains of calomel uncombined as soon as I see my patient, but whether this cuts any important figure in the treatment, I am unable to say; but I do believe the combined effects of bromide of potassium and quinine administered as above directed, will save more cases than any other mode that I have read of. I always direct mustard to be applied to the spine and back of neck, letting it burn severely, and alternately cold cloths and mustard again.

Should the patient, on my arrival, be delirious, in addition to the above I administer hydrate of chloral sufficient to produce sleep, which may sometimes be a considerable quantity.

Under no circumstances do I ever give opium or its salts; for, as far as my experience has extended, its effects are positively injurious; in fact, favoring the disease.

After a patient has once arrived at the stage of complete insensibility, I do not believe that there is any balm in Gilead for him.

One thing is certain, all of my cases are relieved by this treatment; whether it is due to treatment or that the disease is assuming a milder form, I am unable to say; but other practitioners around me are having no better success than formerly.

If my observations are deemed of sufficient importance, you can give them to the public; otherwise, consign them to the waste basket.

Respectfully,

JULIAN C. FIELD, M. D.

CAMERON, TEXAS, 1873.

Editor Richmond and Louisville Medical Journal:

On the 13th of May I was called to see a man who had been stabbed. I found a wound in the left hypochondrum that admitted my three fingers their whole length. The omentum was protruding several inches. I felt that the spleen was not injured, nor the colon, nor any important organ or blood vessel. Also a wound in the right inguinal region, into which I inserted my finger and found that no important organ or blood vessel was cut. Also a wound over the sixth rib, into which I

could not introduce the probe, nor did I make much effort to do so, as there was no air passing through it on inspiration or expiration; and as the respiratory murmur and resiliance were distinct, I inferred that it had not penetrated the cavity of the thorax. I dressed the wounds with sutures where required, and adhesive plasters, and the case passed out of my hands.

On the 20th of June I was again called to the case, and found the wounds in the abdomen healed by first intention, but the wound in the thorax fistulous and discharging a great quantity of muco-purulent matter, both through the wound and the mouth. I was informed that it had swollen very much and become painful, and the patient, against the advice of his physician, had himself opened it, when it at once discharged a "wash-pan full" of the matter, very much to his relief, but occasioning great prostration. On auscultation, I discovered the respiratory murmur very distinct above the wound, but imperceptible below it, I thought, from gravitation of the secreted matter. I ordered an injection through the wound of a solution of carbolic acid in glycerine, one part to forty. Two or three ounces were so injected at one time, and the patient only complained of the disagreeable taste of the acid in the matter passing through the mouth. I directed the injection to be repeated three times a day, in such quantity as could be administered. During the time that I observed the case, two or three weeks, the discharge gradually diminished, and the quantity of the solution administered became less and less, till it was discontinued. The patient then returned to his home, and I learn is attending to his business—farming—in comfortable health. As the secretion of matter diminished, the respiratory murmur extended downwards till it became distinct throughout the lung.

Now, Mr. Editor, surgery is not my forte, and I confess that I am somewhat puzzled by the phenomena of this case, and would be glad to have an elucidation. Had the wound, when inflicted, penetrated the cavity of the thorax, would it not have

occasioned collapse of the lung, and consequently absence of respiratory murmur?* Had the opening into the cavity that evidently existed when I again took the case, been the result of subsequent inflammatory action, as it must have been, why did it not occasion collapse of lung?† Finding that, when I saw him, the opening had existed some days and had not occasioned collapse, nor any more difficulty of respiration than was due to the presence of the pus, I did not attempt to close the wound and prevent the ingress through it of air into the chest, as directed by the authorities, but thought it better to leave it open for the exit of pus, fearing suffocation from the pus should I close it. Was I right in this?‡ I suppose there must have occurred, as a result of inflammation, adhesion of the pleura to the walls of the chest, else the sac of the pleura would have become filled with pus which could not be evacuated, and would have occasioned more serious consequences.

D. W. Brodnax, M. D.

Port Sullivan, Milan County, Texas,
March 9, 1873.

E. S. Gaillard, M. D., Editor and Proprietor
Richmond and Louisville Medical Journal:

I herewith transmit you the history of a case occurring recently in my practice in this vicinity, which you are at liberty to publish or not, as you may see fit.

On Sunday, 9th February, was called to see Amanda Benson (colored), aged seventeen. She had given birth to her first child on Tuesday previous at 6 A. M., after a labor of forty-

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* As according to the report, there was during inspiration and expiration no air passing through the wound, there could at this time have been no communication between the wound and the respiratory tract; and hence there could not be either collapse or loss of respiratory murmur.

† On account of the inflammatory product (lymph) destroying communication between the walls of the sinus and the air cells, hence air from the lung could not thus escape, and there could be no collapse.

‡ It is believed to be injudicious to close the distal end of any suppurating sinus.—Ed.

three hours, attended by an old negro woman. She had been doing well up to 11 A. M., Saturday the 8th, when she complained of some pain in her head, shooting from one temple to the other; this pain increased in intensity during the night, and at 6 o'clock A. M., on Sunday the 9th, severe epileptic convulsions commenced, and recurred every forty-five minutes up to my arrival, leaving her insensible during the intervals. Finding the pulse 125 to the minute, small in volume and corded, I abstracted thirty-two ounces of blood from the arm. A convulsion came on while the blood was flowing from her arm; this one was, if possible, more severe than the preceding ones, shaking the bed violently and imparting some of its momentum to the floor of her room, and causing the stream from the orifice to mount six or eight inches higher than before it came on.

As she was unable to take medicine per orem, I administered the following by enema at 9¾ A. M.:

℞.—Hydrate of Chloral, xlv. grs.;
Bromide of Potassium, xxx. grs.;
Morphiæ Sulphat., ss. gr.;
Aquæ, f. ℥iss.;

In fifteen minutes afterwards another convulsion; during the paroxysm the enema was expelled. Upon its cessation I administered by enema immediately (time 10½ A. M.) precisely the same prescription as the first; after its administration she lay and slept quietly and tranquilly until 6 P. M., undisturbed either by her child or two puppies that I had ordered to her breasts (which were large and full of milk), or the drawing of a blister, three and a half by fifteen inches, applied to the spine. Her pulse diminished in frequency, becoming at the same time soft and full up to 6 P. M., when they beat seventy-five to the minute; when I gave her, per orem, the following—

℞.—Blue Mass, xv. grs.;
Pulv. Ipecac, ss. gr.;

to be followed at 11 A. M. by a good dose of castor oil, which

produced several copious actions. No other convulsion occurred. On my next visit I found her able to sit up in bed, get on the floor without assistance, and calling for food, but complaining of an occasional darting pain in the forehead, and that her vision was very much impaired, being able to distinguish only between night and day.

I then ordered the following prescription every three hours per orem:

℞.—Hydrate of Chloral, xxx. grs.;
Bromide of Potassium, xx. grs.;
Morphiæ Sulphat., ¼ gr.;
Aquæ, f. ℥ij.;

to be continued until pain in her head should cease, and she should become perfectly quiet and sleep. After taking the third dose, the pain in her head yielded, and she slept quietly for seven hours. No other convulsion occurred, and without taking any more medicine than an occasional cathartic, she recovered well, and her sight was gradually restored. She has been attending to her daily duties now nearly three weeks.

Very respectfully,

N. A. Rice, M. D.

Clinton, La., May 22, 1873.

Dr. E. S. Gaillard:

Dear Sir,—If you would not deem it presumptuous in a first-course student, I would be pleased to give you a description of a very interesting case of a burn that occurred under my observation a short time since. The case (that of a negro woman aged perhaps forty or forty-five) was burned six weeks before I was called. Having in the meantime employed every means that friends and acquaintances could suggest to heal the wound without effect. I found the woman in a very weak condition, prostrated by suffering, with a deep, raw burn extending from the knee to the crest of the ilium, covering that leg completely and embracing a portion of the abdomen and back. The flesh

was very flaccid and unhealthy in appearance; no granulations were perceptible, and the limb seemed in a paralytic state. My first step toward the treatment was to excite capillary action by using a strong solution of zinc sulph.; after two or three applications of which I noticed healthy granulations springing up, and a considerable discharge of laudable pus; I then applied a slippery-elm poultice, which arrested all injurious inflammation and gave the burn a very healthy appearance. I then discontinued the poulticing, and dried the abraded surface up by sprinkling tannin lightly over it through a muslin cloth.

The above treatment having occupied nearly three weeks, the patient appeared to be doing very well, when from exposure or some other cause, the limb inflamed again, and I feared serious trouble. I, however, reäpplied the poultices, and upon the subsidence of inflammation, used pulv. willow charcoal for deodorizing and drying up the burn; ad interim giving morph. sulph. in half-grain doses to give patient rest and freedom from pain.

In six weeks after I commenced treatment I discharged the case as cured, putting her upon a tonic—mur. tinct. iron, ten gtt. three times a day. The burn is now completely healed, she is able to walk about, and her general health is improving fast. She was confined to her bed about three months.

Yours, respectfully, F. D. Wood.

North Middleton, Bourbon County, Ky.,
May 19, 1873.

Dr. E. S. Gaillard:

Dear Sir,—I notice in the May number of your Journal a communication from Dr. O. P. Langworthy, Clinton, La., concerning treatment of Cerebro-Spinal Meningitis, with reference to heroic doses of calomel as prescribed by Dr. Westmoreland for same.

I remember in 1863 having to treat five cases of this terrible malady, and having lost the first four, I concluded in the fifth case to give heroic doses of calomel, repeated every two hours.

I gave from 60 to 80 grains at a dose, with grain doses of opium, until I had given probably over 300 grains of the former in about sixteen hours. I then administered 4 drops of croton oil; and had the satisfaction of seeing my patient recover thoroughly in a few days with but slight ptyalism. I, of course, used mustard to spine and ice to forehead; also to occiput and nape of neck a fly-blister. I might add that I was not called to see this case for eight or ten hours after the attack, and found him convulsed, with opisthotonos and all the other symptoms characteristic of the malady. My theory was the simple old idea of promoting absorption of the effused material by bringing the system rapidly under the influence of mercury. Since then I have not met with a distinctive case of this disease; and never having tried the treatment referred to in but the single case, I am not prepared to pronounce upon its merits. One thing I do know, and that is, that in Cerebro-Spinal Meningitis we have a disease that has hitherto baffled the skill of most of our best medical men; and I am confident that, in order to arrest, or to use a paradoxical word, "cure," we will have to avail ourselves of heroic remedies, and remedies that act with great rapidity. Early recognizing the disease is of vital importance, in the beginning I feel sanguine of the value of the lancet, followed by repeated doses of calomel and opium, with ergot and such other remedies intermixed as may be deemed necessary. I should myself in no event feel satisfied in losing a patient with this disease without having freely used those two old and well-known agents.

I do not know that this will interest you at all, but thought while writing I would mention my experience with calomel in the case referred to, with the faint hope of throwing a little light upon the treatment of this fatal malady. My five cases all occurred in the same neighborhood, and there was no chance for mistaken diagnosis in the fifth and last case referred to; at least so I believe.

I am, sir, your obedient servant,

F. R. Davis, M. D.

Owenton, Ky., 1873.

Dr. E. S. Gaillard:

Dear Sir,—I have in my possession, preserved in alcohol, a specimen of a double knot tied in the umbilical cord. I removed it on the 19th day of June last. The child was well developed, and did well. The cord was unusually long, and the blood vessels in it, for about five inches on each side of the knot, were considerably dilated. I will at any time forward the specimen to your care if desired, with proof if necessary.

A short time since Dr. J. W. Johnson, of this place, prescribed—

Iodide Potassium, ℥ij.;
Water oj. Mix.

Take tablespoonful morning, noon, and night; in case of secondary syphilis in a negro boy. The father of the boy, who had received directions as to using it, sent the medicine by some one else, who told him to dissolve it in a pint of water and drink at one dose, which he did. Shortly after taking the draught he become comatose, and remained so for *several* days, and then rallied with the syphilis entirely cured. Dr. Johnson is a good practising physician, and I can vouch for what he says.

Very respectfully,

H. G. Smith, M. D.

Paducah, Ky., June 27, 1873.

Drs. Keller and Gale:

Gentlemen,—For the last five or six days I have been treating my cholera patients by hypodermic injections of atropia with the happiest results. One-thirtieth to one-fiftieth grain relieves cramps, vomiting, and purging, warms up the skin, raises the pulse, and induces sleep; the effect is really astounding. All the cases that I have used it in, that had any life about them, recovered. I caught the idea from Dr. Keller's remark, when here, in relation to a case of puerperal convulsion which I was treating at the time. Seeing the inefficiency of

other remedies, as a last resort I made one injection in the calf of the leg with atropia one-thirtieth grain; morphia one-sixth; the patient went to sleep in five minutes; the surface became warm with the belladonna flush on the face and chest; pulse rose, and had no more trouble. I have up to this time applied it in eight cases, all of which proved favorable, and recovered with but little else.

I write this in haste. You can make the facts known to the Profession if you think proper. You can have the facts, but not the letter, as I am not writing for publication. I am much pressed with business, and have no time to write an article for publication, though I think this item of treatment should be known at once, having no doubt but that many lives may be saved by the use of the remedy, if used before total collapse sets in.

Yours in haste,

R. SAUNDERS, M. D.

LOUISVILLE, June —, 1873.

Dear Doctor,—The above will explain itself, and I hope you will find room for it in your July number. I have taken the ground for several years that the remedy mentioned would be of incalculable benefit in some stages of cholera, and now that I have the testimony of such a man as Dr. Reuben Saunders, I feel confident that my idea is correct.

Yours truly, J. M. KELLER, M. D.

NOTE.—These facts deserve earnest attention. While atropia is almost universally known to have the effect of causing contraction of the arterioles, and so producing capillary anæmia in the tissues manifesting its effects, it has not been specially or sufficiently tried in the treatment of cholera. If by its action on the sympathetic system of nerves, the vaso-motor nerves of the intestines are so impressed by the influences of atropia as to cause contraction of the arterioles of the intestines, it is manifest that the enormous serous exudation taking place from the intestines will be materially controlled and the patient rendered by it so much better. Again, the atropia in smaller doses increases the tonicity or contractility of the arterioles, and so serves to improve the general circulation and diminish the tendencies to centripetal congestions, with all the consequent evils of that serous exudation loaded with epithelial flocculi, so generally recognized as "rice-water discharges." The atropia treatment is deserving of fair and full trial.—ED.

HUMBOLDT, KANSAS, May 29, 1873.

Dr. E. S. Gaillard:

Dear Sir,—My experience does not agree with the report of Dr. Pollok on Diseases of High Altitudes. I lived nearly a year just at the foot of Gray's Peak, a long way above timber line, and had quite a number of men under my charge, some of whom lived in a stone house just at the mouth of the mine I was working all winter. I was there myself all summer, and I think the altitude was nearly fifteen thousand feet. We all enjoyed perfect health.

Respectfully, your friend,

W. M. DUNN, M. D.

MEMPHIS, TENN., June 27, 1873.

Dr. E. S. Gaillard, Editor
Richmond and Louisville Medical Journal:

Dear Sir,—There appears in the last number of your Journal a communication signed J. T. Marable, M. D., which proposes to be a criticism of my article on "Treatment of Chronic Dysentery by Topical Medication," published in the "Atlanta Journal" for December.

I don't know Dr. Marable, and wish to have no relations with him personal or professional; but as this criticism is so gross a misrepresentation of my statements and views as published in the "Atlanta Journal" in the article alluded to, I think it nothing more than justice to myself to ask you, as editor, to correct said misrepresentations. The author of the criticism has evidently intended to injure me, if possible, because it is to be seen at a glance that his statements are based upon the short notice of my article which appeared in your Journal for April, and not upon the article itself. If he had had any honest motive for writing, he would certainly have taken pains to read what he was criticising. Please notice the following points: I claimed nothing whatever for nitrate of silver which has not been known to the Profession from time immemorial. My ar-

ticle was not styled the "Treatment of Dysentery by Nitrate of Silver," but by "Topical Medication." I claimed only to have obtained better results than usual by exposing the inflamed and ulcerated surfaces with a speculum, and then applying the remedy or remedies directly thereto; and closed by explaining what I supposed to be the rationale of the cure—viz., setting the entire colon at rest by quieting irritation in the neighborhood of its outlet.

One other point and I have done. The critic has a good deal to say about my being ignorant of the thickness of the rectal wall, and insinuates that I am mistaken in saying there was an ulcer large enough to hide a guinea's egg. Reference to my first case, as reported in the "Atlanta Journal," shows the following explicit statement: "Upon the posterior aspect of the rectum there was found a much larger ulcer, whose lower margin was just an inch and a half from the anus. This ulcer involved the entire thickness of the rectal wall and the tissues intervening between the gut and the sacrum, so that a curved instrument was necessary to explore its cavity. A piece of sponge, the size of a guinea's egg, could be buried out of sight in this cavity."

Now, Doctor, I must confess that, in view of the old acquaintance and friendly relations which have existed, and still exist, I hope, between you and myself, I was a little hurt at your allowing so unjust and offensive a criticism to appear in your Journal. I suppose it happened during the press of professional and editorial business. If the criticism had appeared in the "Atlanta Journal," so that those who read it could have seen the original article, I would not have said one word, but been satisfied to let both stand on their own merits. As it is, a large number of physicians subscribe to your Journal, read the one, who have never seen the other. I therefore appeal to you, as editor, to correct the misrepresentations referred to.

I would be glad to hear from you in reference to the subject of this letter. Very truly your friend,

R. B. Maury, M. D.

NOTE.—The article in the "Atlanta Medical Journal" had not been read by the editor, and the letter of Dr. Marable was published to elicit the facts, and to give to Dr. Marable, as is given customarily by the editor to every physician of respectability and good standing, an opportunity to criticise, in the pages of this Journal, the views publicly advanced by any member of the Medical Profession. Had the character and record of Dr. Marable been known then, as it is known now, he would not have been dignified by an honored appearance, under any circumstances, in the pages of this Journal. It is unnecessary to give details in this connection, though they will be given if necessary. No one who knows Dr. Maury will consider him in any manner injured by the criticisms attempted; or if there be any one who has been thus unpleasantly influenced, the facts given herein by Dr. Maury are amply sufficient to remove all injurious impressions in regard to his useful article.—ED.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

DISCUSSION OF INSANITY FROM A MEDICO-LEGAL STANDPOINT, AS REGARDS HOMICIDE, ETC., ETC. For the Kentucky State Medical Society, April, 1873. By HENRY F. BARNES, M. D., of Louisville, Kentucky.

"Damnant quod non intelligunt."

Insanity is a theme upon which much has been written within the last decade, and much light has been directed, both upon the pathology and treatment of this protæan malady; and *pari passu*, great advancement has been made in regard to the actual pathology and correct treatment of the hitherto almost intractable forms of nervous affections akin to insanity.

Although I have devoted many years of my professional life to the care and treatment of the insane, during which period I have had, almost continuously, an average of some two hundred and fifty cases under my personal observation, yet I acknowledge my inability to properly expound the great truths already developed in the science of psychology.

If, however, the full statistics of my experience in this specialty are required by any member or members of the Profession, I would most respectfully refer them to the reports of the In-

diana Hospital for the Insane from 1855 to 1861, inclusive. I might, would space permit, review the whole matter, but will not tax their patience with such details in this paper.

It would be useless for me to attempt to reproduce in this paper the general statistics, when they are so carefully noted in the published reports, as above indicated.

Notwithstanding the notes of admission and the peculiarities and treatment were recorded in each case, I am sorry to be compelled to acknowledge that I was not at that period fully impressed with the importance of the careful observation which should have been adopted in each and every case. If such an opportunity were offered now, I dare say I would improve my time more carefully in noting every symptom; also the entire course of treatment adopted in each and every case under my observation.

Since my retirement from the specialty, I have been called frequently as a medico-legal witness, or rather as an expert where the plea of insanity had been instituted in criminal and other cases; and in view of the fact that so much has been written of late on the subject of insanity and diseases of the nervous system, their pathology and treatment, etc., I have determined to confine myself to the discussion of insanity from a medico-legal standpoint. Doubtless many have observed the disposition on the part of the secular press to ridicule the courts for allowing the plea of insanity to be set up.

Experts have likewise received more than their share of denunciation, and especially are they subjected to the anathemas of these secular knights of the quill when led by the evidence or the hypotheses to give their opinion in favor of the criminal in cases of impulsive homicidal monomania.

If the jury, through the charge of the court and the evidence of the expert, have a reasonable doubt of the sanity of the prisoner, it is their sworn duty to return a verdict of acquittal, and yet how frequently are they denounced in like manner, after performing like honest men their solemn and imperative duty.

In my opinion, it is not the province of the secular press to call in question the charge of a judge to the jury, whose charge is founded in great part upon the opinion of an expert, who, by reason of great experience, is so thoroughly competent to give an opinion in any case of the kind.

I have absolutely been astounded at the style of comments of the secular reporters on forensic cases of the kind in question. They would have the community believe that they know more about insanity than the most learned specialist, and call in question the law, and the facts as expounded by the learned judge to the jury, and would assume to know more of forensic medicine than all the lawyers and physicians combined.

I have often received a thrust of their lance, but the effect was ephemeral, and have not chosen in any case to measure the *Damascus blade* of our most honored profession with their *pungent steel.*

Their motto would often seem to be: "Whom the gods wish to destroy they first make mad," and hence I have never suffered myself to enter into controversy with them.

I have ever regarded it as beneath the dignity of a true physician to engage in acrimonious controversy through the secular prints of the country. I regard the individual courting such notoriety as disposed to empiricism, if not already a charlatan, and an unworthy member of our learned profession. Failing to become prominent by reason of his good works, he seeks the columns of a secular sheet, through which to emit his billingsgate, vituperation, and slanderous epithets; and thus acquire notoriety at the expense of character, in the person of his victim, and to the detriment of the profession in general. But I ask pardon for this digression.

There is one other matter I wish to notice in regard to expert evidence, as conducted in most of the courts of this country; and it is this.

With all due deference to the learned members of the legal profession, I must say that in many instances there is on their

part an apparent effort to take advantage of medical men when placed upon the witness stand.

I must say, however, that in the large number of cases in which I have served as an expert, I have met with almost uniform courtesy from members of the bar. There is now and then a Solon who seems to think that, like Robinson Crusoe, "I am monarch of all I survey," in the person of the physician or expert before him; but in many cases, I dare say, he cannot add, "My right there is none to dispute." An expert has rights, and knowing them, he should dare maintain them, if necessary, by an appeal to the court.

Medical witnesses and experts should not suffer themselves to be browbeaten or hoodwinked by a lawyer, and made to give utterance to words or sentences which would compromise them. This is not unfrequently accomplished by false construction of questions propounded by cunning counsel.

Such a course is unfair and unjust, if not ungentlemanly on the part of an attorney, and when accomplished, is paraded in the final pleadings, to the detriment of the Medical Profession.

Many attorneys seem to regard medical men their inferiors the moment they enter a temple of justice, but in not a few instances the assumed comparison might be regarded as invidious by the more intelligent portion of the community. Many attorneys, if unable to take advantage of a witness, are like the Moor, Othello, their "occupation's gone;" and they yield gracefully if not ingloriously.

Chief Justice Hornblower has uttered the following in regard to medical evidence:

"I consider the administration of criminal law greatly indebted to medical men for the results of their valuable experience and professional discussions on the subject of insanity, and I believe those judges who carefully study the medical witnesses, and pay the most respectful but discriminating attention to their scientific researches on the subject, will seldom, if ever, submit a case to a jury in such a way as to hazard the conviction of deranged men."

Judge Capron, who so ably presided over the celebrated Huntington trial in the city of New York, said: "Insanity or mental alienation has, from time immemorial, received the attention of the civil and criminal tribunals of all enlightened governments. Able professors in all the learned professions, and other profound scholars have studied and examined the structures and functions of the human system; the laws and operations of mind, the relations of each to the other, and their mutual influence as a united organism, have deducted results and demonstrated their correctness by practical illustrations and logical deductions from established data; these deductions the courts have never failed to sanction as soon as their learned authors had agreed among themselves on the subject, and practical experience had attested their certainty."

The distinguished judges just quoted, and indeed the main body of the leading members of the legal profession have ever been ready to accord to the members of the Medical Profession all the honor due them as experts; at least, this has been my experience, so far as I could comprehend their disposition in this direction.

The first thing required of an expert when placed upon the witness stand in cases of alleged homicide, is to give his opinion upon a hypothesis made up from the evidence elicited, which is calculated to establish the insanity of the prisoner, and hence the answer is of paramount importance, not only to the prisoner, but also to the State and the community in general. It not only involves the life and liberty of the prisoner, but community and society demand for their safety that criminals should be punished, in order to deter others from the commission of like crimes against the majesty of the laws, both human and divine.

As a specimen of the hypotheses propounded, I will instance the following, which was presented and answered in writing at the trial of Dr. C., in the Tipton Circuit Court, State of Indiana, for the homicide of C—— A——. I give it as recorded in the archives of the court, a copy of which was lately for-

warded to me by the clerk. He says: "The following hypothetical case was propounded by the Hon. Daniel W. Voorhees, counsel for the defence, to Henry F. Barnes, M. D., of Indianapolis, the chosen expert upon the trial of Dr. C., charged with the homicide of C. A., in the town of K. The answer of Dr. Barnes will give a fair exposition of the evidence and the facts in the case."

The subjoined is the only hypothesis that has been presented to me in writing; all others having been presented and answered verbally, after hearing the evidence in the case. The hypothesis in the above-mentioned case is as follows:

"The homicide with which the accused is charged, was committed by him in the presence of a number of persons on the street in the town of K., between the hours of 8 and 9 o'clock in the morning of the 26th of October, 1866. He was first observed, a few minutes before the homicide, standing at his office door with a wild, frightened look, staring apparently on vacancy.

"An old and intimate friend on passing spoke to him, to which he made no response by word or look.

"In an instant afterward he was seen to clap his hand suddenly to his head, bending his head forward and to one side, exclaiming at the same time, Oh, my God! and starting on a swift run toward the deceased, who was at a distance of about seventy-five yards. He ran at the top of his speed, constantly repeating, as if to himself, in an excited undertone the exclamation: Oh, my God! While running, he had a fearfully wild and frenzied appearance. He fired upon the deceased before he stopped, and while in the act of firing, cried in a loud voice, you are the man that ruined my poor wife, and bought poison to give to me! Oh, my poor wife! Oh, my poor wife! He fired four times, constantly repeating these exclamations.

"After the firing ceased, he continued to utter them, and occasionally screamed as if in great and terrible pain. Two persons assisted him from the scene of the homicide, and the movements of his body were convulsive; and at one time his

strength so completely failed, that he could not stand and had to be supported.

"When taken into the hotel, a few minutes afterward, he was found to be suffering from intense heat in his head. He called repeatedly for the application of cold water. It was applied, and the head was found to be extremely hot. He complained of constant thirst, and for thirty-six hours or more drank all he could get and ate nothing.

"A person had to attend him in the jail, especially to give him water and to keep him from drinking too much.

"In addition to these facts, take the following also into consideration:

"The deceased, A., had seduced the wife of the accused while the accused was absent in the army as a surgeon, and an adulterous intercourse had been kept up between them three or four years.

"A. and his family and the accused and his wife had been socially intimate. Five or six weeks before the homicide, the wife of the accused made a full confession of her guilt to her husband, stating that the deceased had seduced her, and afterward by threats and promises had kept her so completely under his control as to do with her as he pleased.

"This communication caused instant and violent grief in the accused. He threw himself down, sobbing violently and crying out, Oh, my poor ruined Nellie! and other similar exclamations of distress over the ruin of his wife. As far as can be known he slept none the succeeding night, and indulged in constant lamentations and moanings. In the interval between the communication and the time of the homicide, the accused appeared deeply depressed, abstracted, and silent. He was thought by those most intimate with him to be unfit for the duties of his profession. His physical appearance was also greatly changed. His face was haggard, sad, and desolate in its expression. He appeared at all times deeply and painfully preöccupied with some distressing subject. His eyes had a very unnatural and at times a glassy and fixed stare. He

scarcely spoke to or looked at any one. The accused is thirty-eight years of age; was married in 1860; is a man of education, and marked nervous sanguine temperament.

"He saw the deceased for the first time after the knowledge of his wife's infidelity, when he ran from his office door on the morning of the 25th of October, and shot him in the town of K. Upon the foregoing facts you will please state your opinion of the mental condition of the accused at the time of the homicide."

Response to the hypothesis of Hon. Daniel W. Voorhees, by Henry F. Barnes, M. D.:

Having anticipated the hypothesis just presented, and having duly considered the evidence from all standpoints in the case pending, I respond that, in my apinion, the defendant was insane at the time of committing the homicide in question.

The particular form of insanity under which he was laboring at the time of committing the act, is what is denominated by pyschologists impulsive homicidal monomania.

I date the inception of the disease from the period of his interview with his wife, as testified to by Dr. Henderson, at which period she made a full confession of her guilt, together with the manner of and the period of her seduction.

The seduction, by her confession, was accomplished while Dr. C. was absent in the army, several years prior to the said interview, and that by means of threats and promises of various kinds, she had since been induced to lead an adulterous life with the deceased; and that in the meantime deceased had laid two several plans to poison the defendant, both of which had been frustrated.

All of the above facts being suddenly made known to him, were well calculated to make a powerful impression upon defendant's mind, and, in one of his peculiar temperament, was well calculated to derange the affective and reflective faculties, thus rendering the will powerless to control his actions.

It matters not what the character of defendant's wife was subsequent to the alleged period of seduction as regards virtue;

if he accepted her declaration as true, that deceased was the author of her ruin and the destroyer of his happiness, these impressions would doubtless govern his future actions.

The evidence proves that he was a changed man from the period of this interview, and the affective and reflective faculties were seriously impaired.

It seems that he was so perfectly abstracted that he would pass by his most intimate friends and fail to recognize them, which was very unusual for him to do.

He also refused to visit patients who had been his most substantial patrons. He made frequent mistakes in prescriptions, which he had not been known to do previously.

He ate little, slept little, and sought seclusion to avoid meeting and conversing with his most intimate friends. I might mention here that there is a form of what is known as reasoning monomania, and it may be the defendant was prompted by a course of reasoning to prepare to meet the deceased in case he made his appearance. The attempts and threats that had been made upon his own life would have prompted defendant in that direction, in my opinion, unless, forsooth, he were perfectly demented.

In this state of mind, it is my impression that the sight of the destroyer of his happiness in the distance was well calculated to produce an uncontrollable homicidal impulse, or intensify the mania which already existed, and result, as it has done, in the utter destruction of his victim.

The fact of defendant neglecting to recognize an old and particular friend who spoke to him on the morning of the homicide; his abstracted and wild expression of physiognomy; the swift running of at least seventy-five yards when he observed deceased for the first time since the revelation by defendant's wife of the diabolical plots and seduction; the manner of shooting, and in the presence of several persons on a public street; the application of the hand to the head; the contortions of the the body and exclamations; and subsequent to the act the muscular spasms and twitching; the desire to give himself up to

the authorities; the excessive thirst and heat of head; the refusal of food for thirty-six hours, all prove to my mind that the defendant was acting under the influence of an uncontrollable homicidal impulse.

The first question, or one of the first propounded by opposing counsel is, What is insanity? which I do assure all is not easily answered; and hence great care should be exercised in answering the interrogatory.

Dr. John Haslam, formerly of Bethlehem Hospital, who was engaged for many years in the specialty, acknowledges his inability to give a proper definition of insanity; and Dr. Pritchard, equally distinguished in the specialty, says "it is hardly possible in general terms."

Hoffbaur says: "An individual is insane when the understanding is deviated or changed in its operations; when he is powerless to avail himself of his intellectual faculties, or to make known his wishes in a suitable manner."

In regard to the above, I believe with Dr. Hammond, that "the last definition, though embracing all cases of insanity, is not satisfactory, for the reason that it is applicable to certain cerebral disorders, which are not properly classed under this head. Among these may be mentioned apoplexy, and concussion and compression of the brain." Dr. Bucknill regards insanity as "a condition of the mind in which a false action of conception, or judgment, a defective power of the will or an uncontrollable violence of the emotions and instincts, have separately or conjointly been produced by disease." The same objection may be urged as before to the last definition. Dr. Gauslain, of Belgian fame, says: "Insanity is a morbid derangement of the mental faculties, unattended by fever and chronic in its character, which deprives man of the power of thinking and acting freely as regards his happiness, preservation and responsibility."

As has been said by another, "insanity is not necessarily unattended by fever, and not always a chronic affection." Drs. Bucknill and Tuke, quoting from Maimon, say that "mental

health consists in that state in which the will is free, and in which it can exercise its empire without obstacle; anything different to this is a disease of the mind; and if it is asked, what is the will? it may be replied according to the definition of Marc, that it is a moral faculty which originates, directs, prevents, or modifies the physical or moral acts which are submitted to it." The late Prof. Gilman, of New York city, after much study and deliberation, said the best definition he could give was as follows: "Insanity is a disease of the brain, by which the freedom of the will is impaired." The latter is considered by psychologists as almost perfect, and has the advantage of brevity, while it is at the same time comprehensive, or *multum in parvo*. Dr. Hammond says that insanity is "a manifestation of disease of the brain, characterized by a general or partial derangement of one or more of the faculties of the mind, and in which while consciousness is not abolished, mental freedom is perverted, weakened or destroyed."

That insanity is a result of a disease of the brain, I readily admit; but in my post-mortems, where death had resulted from acute mania, I failed to discover the slightest lesion of this organ. In many cases I am quite sure the disease is not organic, but only functional or sympathetic. The mind, metaphysically speaking, is the immaterial essence which is enthroned upon or within the brain, but in what manner or how united, none but Deity can divine.

My definition of insanity is, that it is a manifestation of a disordered or diseased brain of an organic, functional or sympathetic character or origin. I accept both Prof. Gilman's and Dr. Hammond's definitions as almost perfect, yet the question, when propounded in the courts, need not be answered in the precise language used by either of them, but may amount to the same in substance. An expert may be called upon to classify the manifestations of insanity, and it might be replied that the forms are as numerous as there are avocations in life. That of Esquirol is most frequently accepted in the courts, which is as follows:

1. "*Melancholia*—Perversion of the understanding in regard to an object, or a small number of objects, with the predominance of sadness and depression of mind.

2. "*Monomania*—Perversion of understanding united to a single object, or a small class of objects, with preponderance of mental excitement.

3. "*Mania*—A condition in which the perversion of the understanding embraces all kinds of objects, and is attended with mental excitement.

4. "*Dementia*—A condition in which those affected are incapable of reasoning, from the fact that the organs of thought have lost their energy and the force necessary for performing their functions.

5. "*Imbecility or Idiocy*—A condition in which the organs have never been sufficiently well conformed to permit those affected to reason correctly."

The distinguished Dr. Maudsley, author of "The Physiology and Pathology of the Mind" (London and New York, 1867, p. 323) thus classifies insanity:

I.—*Affective or Pathetic Insanity*—1. Maniacal perversion of the affective life; mania sine delirio. 2. Melancholia depression without delusion; simple melancholia. 3. Moral alienation proper.

Approaching this, but not reaching the degree positive of insanity, is the insane temperament.

II.—*Ideational Insanity*—1. General. (*a.*) Mania. (*b.*) Melancholia (acute chronic).

2. Partial. (*a*). Monomania. (*b.*) Melancholia.

3. Dementia (primary and secondary).

4. General paralysis.

5. Idiocy or imbecility.

At the International Congress of Alienists, held at Paris in 1867, the committee on classification made the following report:

1. Simple insanity embracing the different varieties of mania, melancholia and monomania, circular insanity and mixed insan-

ity, delirium of perception, moral insanity, and the dementia following the different forms of insanity.

2. Epileptic insanity, or insanity with epilepsy, whether the convulsive affection has preceded the insanity, and has seemed to have been the cause; or whether, on the contrary, it has appeared during the course of mental disease only as a symptom or a complication.

3. *Paralytic Insanity.*—This commission regards the disease called general paralysis of the insane as a distinct morbid entity, and not at all as a complication, a termination of insanity. It proposes then to comprehend under the name of paralytic insane all the insane who show in any degree whatever the characteristics of this disease.

4. Senile dementia, which we would define as the slow and progressive enfeeblement of the intellectual and moral faculties, consequent upon old age.

5. Organic dementia, a term by which the commission means to designate a disease which is neither the dementia consequent upon insanity or epilepsy, nor paralytic dementia, nor senile dementia; but that which is consequent upon organic lesion of the brain, nearly always local, and which presents as an almost constant symptom hemiphlegic occurrences more or less prolonged.

6. Idiocy, characterized by the absence or arrest of development of the intellectual and moral faculties. Imbecility and weakness of the mind constitute hereof two degrees or varieties.

7. Cretinism, characterized by lesion of the intellectual faculties more or less analagous to that observed in idiocy, but with which is uniformly associated a characteristic vicious conformation of the body, an arrest of the development of the entirety of the organism. Outside of these typical forms there are others, such as delirium tremens; delirium of acute diseases, traumatic delirium; simple epilepsy.

After my acknowledgments to Dr. Hammond for the above classifications, drawn from the pages of his late excellent work on "Diseases of the Nervous System," I will also subjoin his

excellent classification, which he says "has in part been brought forward by other authors, though with different explanations to the terms employed":

1. "*Perceptional Insanity*—Characterized by the tendency to the formation of erroneous perception, either from false impressions of real objects (illusions), or from no external excitation whatever (hallucinations).

2. "*Intellectual Insanity*—Characterized by the existence of delusions.

3. "*Emotional Insanity*—Characterized by the uncontrolled, or imperfectly controlled predominance of one or more of the emotions.

4. "*Volitional Insanity*—In which there is an inability to exert the full will-power, either affirmatively or negatively.

5. "*Mania*—Characterized by the union of two or all four of these forms in the same individual.

6. "*Idiocy and Dementia*—The first due to the fact that there are original structural defects in the brain; the second resulting from the supervention of organic changes in a brain originally of normal power."

My object for introducing these several classifications, is to show up in a nutshell the various forms laid down by leading authors, both in the purely medical history of this disease, and also in works on forensic medicine, as applicable to this subject. The above forms, if thoroughly comprehended, will serve an expert well when placed upon the witness stand.

It must be understood by all that attorneys are usually fortified by leading authorities on forensic medicine for momentary reference, or manuscript notes from the same to guide and enlighten them during their examination of an expert; while on the other hand, the expert has no such advantages, and is not apprised of the form or the character of the questions about to be propounded to him; and hence it is well for him to be thoroughly posted in the main classifications.

The same will apply in regard to the manifestations exhibited in the various forms of insanity, and to which I propose to

devote a few thoughts in this connection. Of course a thousand irrelevant questions may be propounded in order to annoy an expert, and produce an effect upon the minds of the court and the jury.

Many questions are necessarily answered equivocally or evasively, as a positive answer might compromise a medical man, and prejudice the jury against or in favor of the prisoner, when an equivocal or evasive answer would not affect their minds one way or the other.

I, of course, allude in the above to the many unimportant questions propounded by cunning counsel more for effect than for eliciting real facts in the case.

The symptoms and manifestations of insanity are important considerations, and make an impressive figure in medico-legal investigations.

These are illusion, hallucination, and delusion. A false perception of a sensorial impression is called an illusion. This is well exemplified in the manifestations exhibited in recent cases of mania; also in many cases of what is denominated impulsive mania, and homicidal monomania, etc.

I will here cite a case in point: I was called as an expert in a distant town in Indiana, some three years ago, in a case in which it was proven that the prisoner had shot a friend in the midst of great excitement, when in pursuit of a "hog" that had destroyed his vegetable garden. He had, during a warm, sultry day in the month of September, been greatly annoyed, and had chased the animal several times around the garden in order to punish it and secure the point of egress. Failing to accomplish his object, he ran up stairs, and, securing his revolver, declared he would kill the animal. The first object he met on leaving the house was his friend, whom he fatally wounded, believing that he was the animal who had given him so much trouble, and so expressed himself

This was a clear illusion of the sense of sight. It was also proven that his intellect was below mediocrity; that he was of an insane temperament; that insanity was hereditary both on

maternal and paternal sides; that an uncle and an aunt, on the respective sides, had committed suicide; that he had been reared by an insane mother, who, in his infancy and childhood, would flee to the dense forests of that section, and for weeks (this child being her only companion) would subsist upon nuts, roots, and herbs, etc., with naught but the canopy of heaven above and around her, save the boughs of the huge forest trees.

My opinion, as elicited by the court, was that the prisoner was insane at the time he committed the homicide; but for some reason he was "sent up" for life.

Another case in point was that of a distinguished physician, who was tried in the Floyd Circuit Court a few years ago for the commission of homicide; the homicide having resulted from the seduction of his daughter by a minister of the gospel; in which case, being a chosen expert, I gave a similar opinion to the above. From the moment of confession of guilt to her father by the daughter, whose physical appearance and condition had aroused his suspicions, he was a changed man, and absolutely unfitted for the duties of his profession. Wherever he went, he seemed to observe his daughter in a pillar of fire suspended in space before him, and could hear her voice urging him to avenge her ruin, which he did effectually. Arming himself with a revolver and his surgical knives, he sought out his victim, and not only shot him, but almost severed the head from the body.

The last mentioned was a marked case of impulsive homicidal monomania, superinduced from excessive cerebral excitement, followed by illusions of sight and hearing. The revelation of her ruin to him by his favorite daughter, whom he had reared so carefully, and whom he had educated in the best institutions of the country, was well calculated to prey upon the affective and reflective faculties. More especially might a sudden and powerful impression have been produced upon the sensorium when his daughter announced to him that she had been seduced by the pastor of the church to which he and his family belonged, and by whom the Doctor had been employed as family

physician; and it may have been, as has been customary, rendered much service gratis. I might also mention that the Doctor was about forty-five years of age, over six feet in height, and portly, with a high-strung, nervous, sanguine temperament. There is a hereditary tendency to insanity, both on maternal and paternal sides, if I mistake not.

It is scarcely necessary for me to mention that illusions of touch, taste, sight, smell, and hearing may exist independent of real intellectual alienation; but such illusions are not so persistent nor so intensified as when the intellect proper is more seriously implicated.

The intellect is not involved unless the false perceptions are accepted as facts by the impression upon the sensorium. The difference between illusion and hallucination is, that, as a general thing, the former is eccentric, while the latter is of centric origin.

In hallucination, the eyes may be closed, and yet the same impressions may exist; sounds may be heard, although the hearing may be lost, thus showing evidence of cerebral derangement; and the intellect being more or less involved, delusions are the result. If false perceptions are accepted as facts by the intellect, they constitute delusions, and may result from illusions or hallucinations.

An insane person may reason correctly from false premises, or he may reason incorrectly from correct premises.

Thus, at the trial of Parkerson, in the Tippecanoe Circuit Court, for the murder of a relative who had seduced his daughter, in which case I was a chosen expert, it was proven that he was insane; that he wandered about during the intense heat of summer enveloped in a heavy blanket overcoat, and talking at times in an incoherent manner. He was a man of wealth, and lived near the Grand Prairie, where he had been carefully herding his cattle and preparing them for market. For several days prior to the commission of the homicide, he would mount his horse and rush into the herd, beating them, and creating a stampede. He would then pursue them with frightful speed,

and in his gyrations would perform feats of equestrianism which were unique in the annals of history. He had illusions of hearing, and said a voice directed him to slay the seducer of his daughter; and, after due consideration, he believed it was his duty to obey, as the deceased deserved death for the commission of said crime against the majesty of the laws both human and divine, and the consequent ruin of defendant's daughter, etc., etc.

Parkerson sought and found him attending horses on an adjoining farm, and shot him, killing him instantly. In this case, although there was incoherency coupled with illusion of hearing, which was accepted as a fact intellectually, yet he reasoned correctly from incorrect premises, and committed the homicide, which, independent of the illusion, is just what many sane men would have done under like circumstances. In many cases it is almost impossible to determine where anger ends and insanity begins.

These cases are denominated mania ephemera, morbid impulse, emotional and moral insanity, and are of paramount importance in medico-legal investigations. There is a form of what is known as dipsomania, which is defined as an uncontrollable impulse to drink ardent spirits, and which often culminates in homicide or suicide. A case in point was that of "Buchanan," who was tried in the Circuit Court at Indianapolis, some five or six years ago, for the murder of his wife, whose head he cleft and almost severed the same from the body with an ax, and without adequate cause. I was also a chosen expert in this case, but was so unfortunate as to differ with some three or four other experts, who had been engaged for a term of years as medical officers in the same institution in which I had served in the same capacity.

One regarded the homicide as the result of moral depravity, superinduced from the effects of intoxicating drinks; another thought it the effect of over excitation of the brain by strong drink; and a third party thought it the result of mania-a-potu; but when my opinion was called for, I took the position

that it was the result of dipsomania. I stated to the court and jury that, in my opinion, from the present appearance of the prisoner, his case would culminate in suicide at no distant period, if an opportunity should present itself. The jury returned a verdict of guilty, and he was sent to the Jeffersonville penitentiary for life, and had been there but a short time, comparatively, when he attempted suicide by drowning, and would have effected his purpose but for the timely interference of his fellow-prisoners, who rescued him in time for resuscitation. He afterward became a raving maniac, and had to be confined in a cell, with a strict surveillance placed over his movements for many months. This case finally resulted in confirmed dementia, and he is to-day a walking monument of the injustice of the secular press, the court, and the jury.

After my opinion in the above case, I was the recipient of a philippic not unfrequently on the term *dipsomania*.

When appointed as the committeeman for that Congressional District to receive President Johnson and suite when "*swinging around the circle*," the local sheets announced that I was appointed for the purpose of testing the *dipsomania* of the President; and when a candidate for the State Senate in 1868, it was declared in certain prints that I was selected for the purpose of legislating on the subject of dipsomania, as the party who selected me was the whisky party.

These gentlemen of the press did not do me the honor to retract even after the insanity of Buchanan was publicly announced. I had only to refer them to my opinion as an expert during the trial of the prisoner and my prognosis in the case for my triumphant vindication.

I might go on and enumerate other important cases, both civil and criminal, but I deem it unnecessary to do so in this paper, which is already too voluminous. I may, at some future time, publish a monograph, setting forth my views more fully on this subject.

It does seem to me that in this enlightened country where we have provided so liberally for every class of our un-

fortunate fellow-citizens, we should provide criminal insane hospitals, separate and apart from other criminal institutions, and isolated from other establishments devoted to the treatment of insanity. Said institutions should be under certain restrictions, but at the same time humanitarian in their designs and management, and the inmates tendered liberation should reason dawn upon their intellects, coupled with deep contrition for their crimes.

In this way it may be many useful citizens might be restored to their friends, and the world made happier for all concerned. I dare say society would be benefited thereby, as more charity would be extended, and more circumspection entertained by mankind toward each other, thus lessening the tendency to all forms of mania.

It may be urged by many that my positions in several of the above cases are untenable, if the views of the various authors on the subject of moral insanity, impulsive mania, emotional insanity, or homicidal monomania, are to be regarded as oracles on this subject. It is true that the cases mentioned by Beck, Ray, Prichard, Bucknill, and Tuke, and many other recent authors, and a few of the older writers on this subject, may not be just such a class of cases, yet the same character of causes have produced similar effects.

I know it is believed by many that a man cannot be insane when he takes the life of his fellow-man for a sufficient provocation; and more especially is this position regarded as untenable when it is proven that the murderer has armed himself and sought out his victim. In answer to this objection, I would state that I have known raving maniacs to attempt the same within the hospital where I had the honor to be a medical officer for a series of years. They would not only secrete weapons, but would threaten their attendants for many consecutive weeks previous to the attempt upon their lives; and in several instances came near accomplishing their purposes. These preparations, threats, and attempts upon the lives of their attendants were premeditated against said attendants for real in-

juries inflicted upon said patients by attendants, when using the necessary physical force for the management of said patients.

In many instances the memory is almost perfect when reason begins to dawn upon the intellect.

Every act, however extravagant, will be recounted with surprising exactness on recovering from an attack of furious, incoherent mania which has continued for many months; nay, it may be for years.

One peculiarity of the insane is this: they are seldom conventional. They may concoct many plans for the chastisement of their attendants, and for their escape from the institution, etc., etc., yet when the moment for combined action arrives the agreement has been forgotten by all save one; and in many cases the scheme has vanished like the baseless fabric of a vision from the minds of the whole party.

As in the cases of homicidal mania mentioned in this paper, if the object should present itself, they might be prompted to action; or, if sought for, at a time when the impression is resting upon the mind to the exclusion of other impressions of a less powerful nature, they would doubtless act promptly whatever the result.

Another peculiarity of the insane, as regards homicides and other crimes, such as kleptomania, pyromania, etc., is their disposition to give themselves up to the officers of justice and acknowledge their guilt; nay, in many instances to boast of their exploits.

I have known exceptions to this rule, however, as when urged by friends to secrete themselves, or when fearful of personal violence.

As in physical diseases, there are many exceptions to general rules in this affection in all its varieties.

I hope, at some future time, to be able more thoroughly to elucidate this most intricate portion of the more recent developments of psychological philosophy.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."—Hor.

Phenol Sodique.—This preparation is gaining the confidence of the Profession throughout the country. Its virtues have been tested for several years, and its range of usefulness in medical practice is steadily increasing. Chemically it is a phenate of soda, and is made by neutralizing phenic acid with soda. As a hæmostatic, antiseptic, and disinfectant, it is prompt and reliable, meeting more indications than almost any other remedy in use.

It is manufactured by the well-known firm of Hance Bros. & White, Philadelphia, who have secured an enviable fame as manufacturing pharmaceutists and chemists. Their preparations are deservedly esteemed for their reliability.—*Exchange.*

Falling of the Hair.—The most satisfactory treatment is the use of tannin, one and a half scruples; adeps one ounce. Oleum sabinæ, gtt. v–xxx to one ounce. Adeps has this effect still more decidedly, but causes the hair to become harsh, stiff, and of a dirty color, and has an unpleasant odor. It sometimes causes severe headache.—*Druggists' Circular.*

New Pharaoh's Serpents.—A mixture, which in burning gives the same appearance as the sulphocyanide of mercury, without being accompanied by similar noxious fumes, can be made by an intimate mixture of two parts acid chromate of potash, one part nitrate of potash, and three parts of white loaf sugar. After mixing, this should be moulded into pastilles of suitable shape and size, and kept away from light in a dry place. If they are to be kept for some time, they should be covered with a thin coat of gum-sandarach. A small amount of Peru balsam gives them a delightful odor when burning. The resulting ash, in the form of a serpent, is said to be an excellent polishing power.—*American Chemist.*

To Get Rid of Ants from a Dwelling.—Take a large sponge, wash it thoroughly, and dry it. Then place it near the ants' hive, and sprinkle white sugar on it. The ants will soon collect on it, and make their nests in it. When they have settled, the sponge may be thrown in hot water, and the ants killed by thousands. By a repetition of this, any place can be readily cleared of these vermin.—*Zeitschrift des Allgem. Oesterr. Apotheker-Verines.*

Cologne Water.—Take of oil of bergamot 4 parts, essential oil of cinnamon 1 part, essential oil of lemon 4 parts, essential oil of citron (citrus medica) 4 parts, essential oil of lavender 2 parts, essential oil of orange flowers 2 parts, essential oil of rosemary 2 parts, alcohol at 90° 480 parts, spirits of rosemary 40 parts, compound spirits of balm (melissa officinalis) 60 parts. Mix, and allow to stand for eight days. Distil until 464 parts of spirits are obtained.—*French Codex.*

Salve for Corns.—Bathe the feet well in warm water, then with a sharp instrument pare off as much of the corn as can be done without pain or causing it to bleed, and dress once a day with the following salve: ℞—Black oxide of copper, grs. xv., lard, ʒ ss. Mix.—*Chemist and Druggist.*

Van den Court's Pills for Cordee.—Take of extract of belladonna, gr. ij.; lupuline, grs. xij.; camphor, grs. xij. Mix and make into eight pills. S. Take from two to four at night.—*London Lancet.*

Burgoyne's Diarrhœa Pills.—Take of tannate of quinia, 1 gramme (15.34 gr.); powdered opium, 3 centigrs., (7.65 gr.); ess. of aniseed, 2 drops; simple syrup, q. s. Make into 10 pills, which may be taken in the course of one or two hours.—*Ex.*

To Disguise Castor Oil.—Rub up two drops oil of cinnamon with an ounce of glycerine and add an ounce of castor oil. Children will take it and ask for more.—*Druggists' Circular.*

Vaginismus.—M. Guéneau de Mussy, in the "Gazette des Hopitaux," June, 1871, commends the treatment of this ob-

stinate affection by the following formula: Take of butter of cacao, 20 grammes (306,8 grs.); bromide of potassium, 3 grammes (46.0 grs.); extract of belladonna, 1 gramme (15.34 gr.).—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

On account of the increased size of the Journal this month the regular reviews and bibliographical notices are omitted. The reader will be interested in examining the table of new books and pamphlets herein given.

Diseases of the Urinary Organs, by J. W. S. Gouley, M. D.; from Wm. Wood & Co., New York, 1873. Text-Book of Physiology, by John H. Bennett, M. D.; from J. B. Lippincott & Co., Philadelphia, 1873. Charleston Medical Journal and Review, edited by Drs. Porcher and Kinloch, Charleston, 1873. Civil Malpractice, by M. A. McClelland, M. D.; from W. B. Keen; Cooke & Co., Chicago, 1873. Report of the New York State Inebriate Asylum for the year 1872. Report of New York Hospital and Bloomingdale Asylum for 1872; from D. Van Nostrand, New York, 1873. Clinical Lectures on Important Diseases, by Nathan S. Davis, M. D.; from J. J. Spalding & Co., Chicago, 1873. Arkansas Journal of Education, by H. A. Pierce, Little Rock, Ark., 1873. Nephrotomy—Extraction of a Calculus from the Kidney, by W. W. Davison, M. D.; from D. Appleton & Co., New York, 1873. Transactions of the Third Annual Session of the Medical Society of Virginia, 1872; from Dr. Landon B. Richards, Richmond, Va., 1873. American and Oriental Literary Record, by Trubner; Ludgate Hill, London, 1873. Normal Ovariotomy, by Robert Battey, M. D.; from Dr. Robert Battey, Rome, Georgia, 1873. Obstetric Aphorisms for Students, by J. G. Swayne, M. D. Revised, E. R. Hutchinson, M. D.; from Henry C. Lea, Philadelphia, 1873. Hand-Book for the Physiological Laboratory, in two volumes, by J. D. Sanderson; from Lindsay and Blakiston, Philadelphia, 1873. Clinical Reports from Private Practice, by J. H. Claiborne, M. D.; from the author, Petersburg, Va., 1873.

Science and Art of Surgery, in two volumes, by John Eric Erichsen; from H. C. Lea, Philadelphia, 1873. The Practice of Surgery, by Thomas H. Bryant, F. R. C. S.; from H. C. Lea, Philadelphia, 1873. Influence of the Mind upon the Body, by D. H. Tuke, M. D.; from H. C. Lea, Philadelphia, 1873. Urinary and Renal Diseases, by William Roberts, M. D.; from H. C. Lea, Philadelphia, 1873. Special Diseases of Infants and Children, by W. P. Guerrant, M. D.; from H. C. Lea, Philadelphia, 1873. Translated by Dr. R. J. Dunglison. Wöhler's Outlines of Organic Chemistry, translated by B. Ira Remsen, M. D.; from H. C. Lea, Philadelphia, 1873. A Hand-Book of Medical Electricity, by H. Tibbitts, M. D.; from Lindsay & Blakiston, Philadelphia, 1873. Report of the Municipal Hospital, by William M. Welch, M. D., physician in charge for 1872; from the author, Philadelphia, 1873. The Dependence of Life on Decomposition, by H. Freke, M. D.; from Fannin & Co., 41 Grayson street, Dublin, 1871. Practical Histology in Vienna and the Microscopical Study of Blood and Epithelium, by James Tyson, M. D.; from Lippincott & Co., Philadelphia, 1873. Transactions of the Little Rock and Pulaski County Medical Association; from Little Rock, Ark.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Memorandum on Cholera—Specific Sanitary Information for Public Use.

The American Public Health Association, by its Executive Committee, submits the following "Memorandum" respecting the most available means for arresting and preventing the fatal prevalence of malignant cholera in this country:

The presence of this disease at several places in the Mississippi Valley is acknowledged. Its progress from New Orleans to Memphis and Nashville seems to have been rapid, and is significant of its onward tendency. That it is being propagated, as in former visitations, by local causes and the neglect of sanitary duties, is as true now as in the former visitations.

To combat and arrest the progress, and prevent the epidemic prevalence of this scourge of sanitary negligence, it is necessary that the inhabitants of every city and town should promptly resort to the most effectual PURIFICATION, and the best known means of DISINFECTION, and that this sanitary cleansing and preparation should be at once and very thoroughly carried into effect—*before any cases of cholera occur*—and that in the *presence* of the disease, these sanitary duties should be enforced in every household, and throughout the entire district. Experience has proved that the best way to prevent both pestilence and panic is to know and prepare for the danger. It is the only way to deal successfully with cholera.

Sanitary Cleansing.—The local conditions that chiefly promote the outbreaks and propagation of cholera, are: 1. Neglected privies; 2. Filth-sodden grounds; 3. Foul cellars, and filthy or badly-drained surroundings of dwellings; 4. Foul and obstructed house drains; 5. Decaying and putrescent materials, whether animal or vegetable; 6. Unventilated, damp, and uncleaned dwellings and apartments.

These localizing causes of cholera should be promptly and very thoroughly removed before a case of the disease appears in the town or district; and if any sources of putresence, or of excessive moisture remain, these should be controlled by proper cleansing, drying, and disinfection.

Thorough scavenging and surface drainage, with the application, at the same time, of quick-lime and coal-tar or crude carbolic acid; whitewashing with fresh quick-lime; the cleansing and thorough drying and ventilation of cellars, basements, chambers, and closets; and daily care to cleanse, flush, ventilate, and purify the sources of defilement about all inhabited premises, will afford almost complete protection, if suitable care is taken of personal health.

The security of personal health requires pure drinking water, fresh and substantial food, temperance, and the needed rest and bathing of the body.

Disinfection and Disinfectants.—The principles relating to

disinfection as a means of destroying the propagating or infectious cause of cholera, and arresting putrefaction, are really understood and may be so explained to any family that the household may insure its own immunity against the introduction and spread of the disease. For popular use we append a brief statement of these principles at the end of this circular: and we respectfully recommend that the statement, and the following schedule of rules and methods, be given to the press, and to all principals of schools, superintendents of places of public resort, railroad dépots, ferries, hotels, and public institutions; and the masters of ships and steamboats; and the conductors of passenger trains throughout this continent; believing, as we do, that, by the timely and continued application of these measures, the prevalence of cholera may be prevented. But let the fact be remembered, that there can be no substitutes for thorough cleansing and fresh air.

Rules and Methods of Disinfection.—For privies, water-closets, drains and sewers, eight or ten pounds of sulphate of iron (copperas) dissolved in five or six gallons of water, with half a pint of crude carbolic acid added to the solution and briskly stirred, makes the cheapest and best disinfecting fluid for common use. It can be procured in every town and by any family, and if the carbolic acid is not at hand, the solution of copperas may be used without it.

To prevent privies and water-closets from becoming infected or offensive, pour a pint of this strong solution into every water-closet pan or privy seat once or twice a day.

To disinfect masses of filth, privy-vaults, sewers, and drains, gradually pour in this solution until it reaches and disinfects all of the foul material.

For the chamber-vessels used by the sick, and for the disinfection of ground upon which any excremental matter has been cast away, use the solution of copperas and carbolic acid; and for disinfecting extensive masses or surfaces of putrescent materials, and for drains, sewers, and ditches, this disinfecting fluid may be used, or the "dead oil" ("heavy oil") of coal tar, or

coal tar itself; coal tar may be used as a paint upon the walls of cellars, stables, and open drains.

Other disinfectants, such as the solutions of sesquichloride of iron, or of chloride of zinc, are effectual in privies and drains, and upon foul surfaces and offensive materials.

Quick-lime is useful as an absorbent and dryer upon foul walls and in damp places; and whitewashing with it should be practised in common tenements, factories, basements, closets, and garrets.

To disinfect the clothing or bedding defiled in any manner by excremental matters from the sick, throw them into a solution made as follows: One pound of sulphate of zinc to 6 or 8 gallons of water, to which add 2 or 3 ounces of pure and strong carbolic acid, such articles to remain therein at least half an hour; then immediately placing them in boiling water, and continue boiling. If the acid is not at hand, then use the solution of zinc in water. The same disinfecting solution is excellent for bed-pans and chamber-vessels, and for soiled floors or defiled surfaces.

Apartments, bedding or upholstery that have been used by the sick with cholera and diarrhœa, should be thoroughly cleansed and disinfected.

Principles and Duties to be Observed.—1. That thorough cleanliness, domestic and civic, and an abundant supply of pure water are essential means of preventing cholera in any household when the disease is near.

2. That general cleansing, scavenging and disinfection should be attended to in every city and town before cholera makes its appearance; and that wherever it does appear, that house and the exposed premises should be kept constantly disinfected.

3. That, whatever differences of opinion there may be respecting the epidemic phenomena of different periods, the paramount importance of thorough cleanliness and disinfection is to be kept in mind; and that, in the words of the chief medical officer of Great Britain, "It appears to be characteristic of cholera, not only of the disease in its developed and alarming

form, but equally of the slightest diarrhœa which the epidemic can produce, *that all matters which the patient discharges from his stomach and bowels are infective;* that the patient's power of infecting other persons is represented almost or quite exclusively by those discharges; that they are comparatively non-infective at the moment they are discharged, but afterwards, when undergoing decomposition, acquire their maximum infective power; and that *if they be cast away without previous disinfection*, they impart their own infective quality to the excremental matters with which they mingle in filth-sodden earth, or in depositories and conduits of filth, and to the effluvia which those excremental matters evolve; that if the effective material, by leakage or soakage from drains or cesspools, or otherwise, gets access, even in the smallest quantity, directly, or through porous soil, *to wells* or other sources of *drinking water*, it can infect, in the most dangerous manner very large volumes of the water; that the infective influence of the choleraic discharges attaches to whatever bedding, clothing, and like things have been imbued with them, and renders these things, if not immediately disinfected, capable of spreading the disease."

4. Cleansing and purity, skillful disinfection, temperate habits, and wholesome diet with pure water and fresh air, are the trusted and sure means of health and security in all places and for all classes of people when exposed to the causes of cholera. The watchword against this destructive enemy should be: Remove the local causes that favor the propagation of cholera, and wherever it appears let its germ be quickly stamped out by powerful disinfectants, and special cleansing.

From being the most feared and destructive pestilence, cholera has become entirely submissive to *sanitary measures of prevention*, and can now be controlled with such certainty and completeness as to prevent its ravages as an epidemic. Believing, therefore, that the people of the United States will wisely apply the suggestions which are given in this *memorandum*, the undersigned committee presents them for the purpose of hasten-

ing and making sure the most extensive, thorough, and speedy control of this Destroyer.

Executive Committee of the American Public Health Association.—Stephen Smith, M. D., New York; C. B. White, M. D., Louisiana; John H. Rauch, M. D., Illinois; William Clendenin, M. D., Ohio; Christopher C. Cox, M. D., District of Columbia; Moreau Morris, M. D., New York; John M. Woodworth, M. D., Superintendent United States Marine Hospital; Francis Bacon, M. D., Connecticut; Henry Hartshorne, M. D., Pennsylvania; Elisha Harris, M. D., Secretary, 301 Mott Street New York.

New York, June 20, 1873.

A Certain Sign in the Recognition of Cholera. By Primararet Dr. Adolf Hermann, (Pesth).

A perusal of the boundless literature of cholera in the form of books, monographs, brochures, etc., would convey the impression that the diagnosis of cholera was an easy matter. Yet it is generally admitted that when the disease is not yet pronounced, the diagnosis from simple diarrhœa or cholera-morbus has been hitherto almost impossible. Cholera is marked by diarrhœa, vomiting, cramps, collapse, diminution or suppression of urine, pulselessness, algor, and cyanosis, yet all these symptoms, as will be admitted, are encountered in other conditions than true cholera.

In the course of the following investigations it will become manifest that *I have succeeded in discovering a symptom which will decide with certainty whether a given case be cholera or not, and will enable the physician to make a positive diagnosis, even though the disease be only in the stage of the precursory diarrhœa.*

The author now enters into the symptomatology of cholera, exhibiting at great length and in full detail the opinions of all the more recent authorities.

Having passed in review all the symptoms considered characteristic by different authors, but absolutely pathognomonic by none, the author returns to the urinary secretion, and considers the suppression of this secretion as noted by all writers. This suppression is not due so much to the abstraction of water by the disease as to the change in the circulation, for with a healthy circulation a free secretion of urine necessarily follows. In cholera as many as 6–8 days elapse without the passage of a single drop of urine, nor can it be drawn with a catheter. When the collapse symptoms begin to subside, the first attention is directed to the urine, to observe if this secretion be restored.

All authors are agreed that the first urine after the collapse differs markedly from normal urine in *containing albumen, cylinders, hyaline, and granular* in abundance, and writers are tolerably unanimous in the opinion that the typhoid stage is due to the kidney disease which is thus developed.

The discovery of the author consists in *the detection of albumen cylinders and epithelium in the urine during the time of the precursory diarrhœa.* If the examination of the urine show negative results, *cholera will not ensue.* The author has had now 48 cases in which to establish his discovery as a fact. In no one of these cases has he been deceived in his prognosis. It is very true that in *stadium asphycticum* little or no urine at all can be obtained for testing purposes, yet if catheterization be regularly practiced (and it should never be omitted in cholera) enough may be obtained at some time for chemical and microscopical examination. The author does not claim priority in the discovery of albumen in the urine of cholera collapse. Simon and Hermann called attention to this fact in the third decade of the present century. The author's claim consists in the discovery of albumen in greater or less quantity during the stage of the "*diarrhœa premonitoria.*"

"Should an individual in health be suddenly attacked with diarrhœa, even during a cholera epidemic, *and should on examination no albumen be found in the urine, cholera will not de-*

velop, not even if the individual be in such a position that he cannot protect himself in any way. Such a diarrhœa may even be maltreated, and still it will not lead to cholera, but will resolve itself in time even though it may have reached such a grade as to have been called cholerine or even cholera."

But if albumen be found in the urine of an individual suffering with diarrhœa—with cylinders and kidney epithelium under the microscope—still the diagnosis of cholera is not absolute, of course, as other affections may bring about this condition; yet as this manifestation is constant and never failing in cholera, as the collapse and typhoid condition is only observed in this condition, such a diarrhœa is to be diagnosticated as cholera when the other affections productive of albuminuria are excluded.

"It matters not whether the symptoms be light or severe, when albumen presents in the urine, it establishes the existence of true cholera, and the graver symptoms will be manifest in a short time."

The author concludes his paper as follows: New observations have only confirmed me in the opinion before expressed, that "*however severe and apparently choleraic the symptoms may be, the disease is not to be considered as true cholera if albumen be absent in the urine; on the other hand, the most anxious attention is to be directed to a case even in the earliest diarrhœa when the urine is albuminous.*"

"I believe that in the future there will be added to the well-known symptoms of cholera, diarrhœa, vomiting, cramps, diminution or absence of pulse, algor, cyanosis, diminution or suppression of urine—also the symptom, *the presence of albumen in the urine*—with its constant attendants, cylinders and kidney epithelium. When these symptoms present without any demonstrable elevation of the temperature (thermometer in the axilla) the diagnosis of cholera is made a matter of scientific precision.

"Now that this terrible disease threatens on every side, I believe I should no longer hesitate to publish my experience. I conclude with the request to my professional brethren to devote

to this new symptom the attention which it merits."—*Allgem. Wein. Med. Zeit.*

NOTE.—The author of this article is so enthusiastic and confident in regard to the differential diagnostic which he describes, that it would be unjust to the Profession to omit calling their attention to his views. At the same time, the reader should not forget the well established fact, that either local or general stasis of the circulation is followed by albuminuria, and that albuminuria is so common a phenomenon in clinical observation, that the accurate physician attaches little or no importance to it; its true significance being estimated by the amount lost in twenty-four hours, and by the persistency of its presence. Schiff, Roberts, Legge, and others, have made these facts well known. The appearance, however, of tube casts, opaque or hyaline, in choleraic urine is worthy of close study.—E. S. G.

The Shifts of Obstetricians.—The "Australian Medical Journal" for May states that on the 2d of March Mr. W. H. Jackson, a medical practitioner, residing at Merino, in the western district, had occasion to perform craniotomy under somewhat exceptional circumstances. Not having the ordinary instruments with him, he used a gimlet, an auger, a chisel, and a hook of telegraph wire. The woman did well.

This is equaled by the devices of Dr. Nelson, of Sacramento. This representative country physician manufactured, in 1852, on the spur of the occasion, with the assistance of an ordinary blacksmith, out of a common iron hoop and a steel ramrod, substitutes that performed their office equally as well, if not better, than the best finished and polished instruments of the metropolitan surgeon. They were a vectis, a blunt and a sharp hook. With these he performed craniotomy and saved the life of his patient.—*Ex.*

Singular Cause of Hæmorrhage from the Bowels.—A rare and important case is reported in the "Bulletin de Therapeutique, June 30th, which throws light on some hitherto inexplicable cases of sudden death from intestinal hæmorrhage. A man seventy-four years of age had enjoyed general good health, except a tendency to constipation. One night he was suddenly seized with intestinal hæmorrhage, and died in a few hours.

Only twice, and that about a month before, had he had slight attacks of a similar character.

A careful autopsy disclosed the only lesion to be an *erectile tumor*, the size of an almond, in the mucous coat of the duodenum. It was composed merely of an enlargement of the capillary vessels of the part, or so-called angioma. A slight ulceration at its edge had given rise to the hæmorrhage which destroyed life.—*Ex.*

Arsenic in Lamp Shades.—A German doctor has described two cases in Jenna and one in Frankfort, where persons using green glazed paper shades were attacked with symptoms of arsenic poisoning. In no case did the symptoms cease until the use of the shade was discontinued. The heat of the lamp volatizing the arsenic renders the small quantity present very dangerous.—*Exchange.*

False Teeth.—Our readers will remember the accident to Cuvier in the loss of his teeth, as reported in a late Clinic. The following note therefore is *apropos:* Lord Brougham, in the course of the proceedings of a great meeting of the Social Science Association, of which he was President, was stopped in the middle of his speech by his teeth falling out. After groping on the floor, and on presently resuming his speech, he made the best of the incident by observing that "our teeth are the source of troubles from infancy to old age."—*Ex.*

MEDICAL NEWS.

'Nulla dies sine linea."

It is rumored that the Medical Department of the University of Louisville has failed in its efforts to establish a hospital of its own. As the graduates of this school, when placed in competitive examination with the graduates of the Louisville Medical College, have always failed to gain admission into the

Medical Staff of the City Hospital, they were naturally much pleased to learn that there was some prospect at last of their becoming officially connected with a hospital; but it seems that these hopes are at an end; for unless the University can build a hospital for her graduates, it is certain that these unfortunate young men will never enter a hospital in this city.———*University of Maryland.*—The chair of Operative Surgery and Ear and Eye Diseases, filled by Prof. J. J. Chisolm, has, at his suggestion, been divided into two chairs. One of eye and ear diseases, which Prof. Chisolm retains, and one of operative surgery, to which Prof. Allan P. Smith has been appointed. Prof. Nathan R. Smith, Emeritus Professor of Surgery and President of the Faculty.———The beautiful steel engraving of Ephraim McDowell is taken from a plate engraved for Dr. E. C. Peaslee, as an embellishment for his fine work on Ovariotomy. By his permission, the Messrs. Appleton have been permitted to furnish a copy for each number of the July issue of this Journal. In the August Journal there will be published a valuable sketch of the life of McDowell, by Dr. J. D. Jackson, of Danville, Ky.———*Crab Orchard Springs.*—Those who visit these celebrated Springs this summer will be pleased that Dr. George T. Erwin, of Danville, Ky., will be the resident physician. Dr. Erwin is entitled to the fullest personal and professional confidence and esteem, and will doubtless be quite an acquisition to the social circle.———A peripatetic scamp, calling himself Dr. Albert B. Barker, oculist and optician, is swindling the public in this State and those adjoining. He publishes, as those recommending him, the names of Drs. Eve and Briggs, of Nashville; Miller, of Louisville; Alcorn and Brown, of Hustonville, etc., etc. The public are duly warned in regard to this ingenious and astute rascal.———At the meeting of the American Medical Association at St. Louis, Missouri, a side-show, entitled the Rocky Mountain Society, was organized by those daring adventurers who, two years ago, in midsummer, in palace cars, boldly scaled the Rocky Mountain peaks, and toiled (sleeping) through the Nevada's eternal

snows, for the grandly philanthropic purpose of getting drunk on California wine. The mere contemplation of the heroism and self-sacrifice involved in this modern *Argonautic Expedition* induces profuse lachrymation. Now that the side-show business has been successfully organized, and provision made for its perpetuity, we suggest the erection of a pavilion at Detroit next year, and the inauguration of a grand tournament, accompanied by the necessary heraldry, armor, and trumpeting. *Clinic.*———*Professor Pancoast.*—We are informed that Prof. Pancoast has resigned the chair of anatomy at the Jefferson Medical College. Dr. William Thompson, well known as the author of some highly original contributions to eye-surgery, has been elected to the position of clinical lecturer on diseases of the eye in the same institution.—*Phil. Times.*———*Miss Dr. Gontcharoff.*—On Monday, May 19, Mlle. Catharine Gontcharoff passed her first examination with a modesty equal to her merit. Mlle. Gontcharoff is one of the most zealous and best instructed of all the medical students. She received the approval "*bien satisfait.*"—*Gaz. des Hopitaux.*———*Epidemic Cerebro-Spinal Meningitis.*—M. A. Laveman publishes a paper on the nature of this affection. In his résumé he considers cerebro-spinal meningitis as an anomalous form of scarlatina, just as suffocative catarrh is a distorted form of measles—*Gaz. de Hop.*———A Berlin College has a Chair of Photography. ———*Lord Lytton.*—The illness which terminated the life of this distinguished novelist was sudden and unexpected. He had for many years been the subject of discharge from the ear, probably attendant on disease of the bone. This had, however, at no time previously given rise to symptoms causing much anxiety. On Thursday acute pain in the ear had set in, and continued until Saturday, when unconsciousness supervened, and speedily ended in death.—*Ex.*———M. Littrè, the greatest of medical scholars, has completed his dictionary of the French language, one of the most remarkable feats of the century. The work is especially rich in its etymology and definition of medico-scientific terms.—*Ex.*———*Information*

Wanted.—Circulars calling for information for the "Medical Register and Directory of the United States" are being rapidly sent out, and this portion of the labor will soon be completed. It is earnestly desired that the responses be as prompt and as full as possible. *It is important to physicians, who have any education or standing, that they appear on this record,* as the work will be one of permanent value, and will be constantly referred to. The forms containing the Directory of the first set of eleven States and Territories (Alabama to Georgia, alphabetically, inclusive), are now in the hands of the printer, and there are but a few days in which information can be inserted in those pages. Officers of public medical institutions of *all kinds,* hospitals, asylums, dispensaries, colleges, medical societies, etc., are particularly requested to furnish us with lists, catalogues, announcements, etc., in order to give brief histories of these institutions, and for use in perfecting the "Register and Directory" in all its parts. It is intended that the work shall be exhaustive, and as nearly *correct* as may be, and it will be issued as speedily as possible; but the labor is immense, and the work is delayed by the want of promptitude in receiving replies to circulars and letters. Send all papers to *S. W. Butler, M. D.,* 115 S. Seventh Street, Philadelphia, Pa.———The King of Bavaria has contributed a thousand florins towards the erection of a monument in memory of Liebig. His Majesty's name is first in the list of subscribers.—*Ex.*———Sir William Gull has been presented by the Empress Eugenie with a costly gold box, bearing the Imperial cipher in diamonds, and containing a pair of sleeve-links worn by the late Emperor Napoleon.—*Ex.*——The Sultan of Turkey retains the exclusive services of a lady-physician—a New Hampshire lady, who graduated in Philadelphia—to attend the females and children of his household.—*Ex.*———The "New York Medical Record" says: This city is the acknowledged medical centre of the United States. Over one thousand medical students are distributed in the three well-known medical colleges—viz., Bellevue Hospital Medical College, College of Physicians

and Surgeons, and Medical Department of the University of the City of New York. This statement is certainly true as regards the number of students. Ought not the "medical centre" of the country to offer the highest standard of medical education?—Eds.—*Bost. Med. Jour.*———[We'll match Cincinnati on the "medical centre" question with any city in the United States, if the number of students in proportion to population tells the story. We have a population of about 200,000, and 600 medical students in all the schools. New York will have to more than triple her number to surpass us.]—*Clinic.* Cincinnati does very well; better than New York and other cities in proportion to population, but not as well as Louisville, which, with 130,000 population, has 500 students—Ed.———

A Novel and Profitable Comedy.—"*A Card.*—This is to certify that I have examined several specimens of Bluegrass milk, at the solicitation of S. J. Henderson, and have found them fully up to the standard of pure milk; also, that Dr. Kastenbine has submitted said specimens of milk to microscopic inspection and found them good.

"Samuel Manly, Health Officer.

"*Health Office,* Louisville, Ky., June 12, 1873.

"We, the undersigned, have also examined the said Bluegrass milk, and fully endorse the above.

Dr. T. S. Bell,	Dr. John B. Richardson,
Dr. E. D. Foree,	Dr. C. W. Kelly,
Dr. B. Wible,	Dr. J. N. Hughes,
Dr. H. E. Orendorf,	Dr. James M. Holloway."

This novel advertisement appears in the daily papers of Louisville.

The very latest British journals record the sudden death at Richmond, by cerebral hæmorrhage, of Dr. Tyler Smith, aged 59. He is accredited with having done more than any other man to place obstetrics in a position to be recognized equally as a department of medicine with practical medicine and surgery. *Exchange.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Tempora Mutantur et Nos Mutamur Cum Illis.—Times change and we change with them. This old Roman aphorism seems to be as correct now as it was at the period which gave it birth. Ancient history is pregnant with illustrations of its truth, and modern history seems but to repeat the old story. Illustrating, both of them, the accuracy of the old Roman philosopher who, in the language above, gave, in part, his commentary upon the instability and unreliability of his race. All cities furnish their examples of the tergiversations and apostasies of man in his relations to the laws which he has himself created; and no sect, or class, or profession can claim immunity from this melancholy record. Louisville has, doubtless, in common with all cities, furnished illustrations of tergiversation among men in all avocations; but it is her misfortune now to demonstrate that some of her physicians must truthfully be enrolled high on the roll of professional apostasy.

In times past (it seems) the physicians of Louisville, like their brethren elsewhere, claimed that it was disreputable to indulge in ingenious and irresponsible advertisement of themselves; they shrank from being advertised by others; they rebuked all who bulletined them as "leading physicians" before the public; they made all thus bulletined ridiculous in the estimation of the public, and they regarded them as a source of injury to their brethren. Above all, the medical men of Louisville have regarded it as disreputable for physicians to lend the influence of their names and professional titles in support of proprietary medicines, specifics, nostrums, and the various medicinal mixtures gotten up by speculative compounders, ostensibly "for the good of the public," but really to extract money from the public, in the periods of its greatest need or greatest panic.

Indeed, to do justice to the medical men of Louisville, none

have, more generally than themselves, recognized the culpability of preparing such mixtures for indiscriminate use, and none have more unsparingly censured physicians who ignorantly, or fraudulently, or foolishly, or stupidly have endorsed these usually vile and abominable compounds.

One may judge of the surprise of the medical public, and even of the general public (to their credit be it recorded), when the following notice appeared as an editorial in the daily press of Louisville, and was subsequently continued as an advertisement:

"*An Authoritative Prescription.*—In view of the prevalence of diseases of the stomach and bowels at this time, and *the general fear of the possibility of the appearance of epidemic cholera* among us, Messrs. Saudek & Colston called upon a number of the leading physicians of the city during the week to aid them in the preparation of a prescription *that may be taken with safety, and at the same time with a certainty of relief when relief is possible.* They have taken great pains and trouble to secure the coöperation of the physicians in this respect, and thus insure a remedy which will prove effective, and which all can endorse. They have at length succeeded in preparing a satisfactory formula, which is not offered as a *specific* for the disease called cholera, but with a modesty that is becoming in apothecaries respecting a disease that has baffled the ablest and most eminent physicians of every region it has visited, they only claim that the medicine can be relied upon for efficacy in all ordinary diarrhœas, *with painful disturbance of the stomach and bowels.* Also, while effective in relief, *it is free from everything of an injurious tendency.* The following is the prescription: ℞.—Pulv. camphora, 2 drachms; chloroformi, 1 drachm; ess. menthæ pepiritz, 2 drachms; tinct. opii, 2 drachms; glycerina, 4 drachms; aqua distillata, 7 drachms. M. S.—Dose: Teaspoonful after *every* liquid stool."

To an article setting forth the above facts, the following recommendation is appended, and it is cordially agreed *in* by many others of the profession.

"We cordially recommend the above article as *perfectly* adapted to the objects named at the head of these remarks: T. S. Bell, M. D.,* E. D. Foree, M. D., W. T. Leachman, M. D., W. H. Galt, M. D., W. H. Bolling, M. D.,* Douglas Morton, M. D., Lewis Rogers, M. D.,† Coleman Rogers, M. D.,* D. W. Yandell, M. D.,* L. P. Yandell, Jr., M. D.,* John E. Crowe, M. D.,* J. M. Bodine, M. D.*

"This prescription is prepared by Saudek & Colston, at the corner of Second and Green streets, and kept constantly on hand ready to answer any call. It will be sold very cheap, and given free of charge to those who are too poor to pay for it."

When the reader has recovered his surprise after reading this pharmaceutical absurdity and therapeutical curiosity, he will instantly feel that his censure and condemnation are almost endless. Chiefly will he fully and unsparingly condemn:

1st. The gross violations, here manifested, of not only the letter, but the entire spirit of the code of ethics, and the time-honored customs of the Medical Profession.

2d. The great injustice done to a confiding and betrayed public, not sufficiently educated medically to appreciate the inelegance, inappropriateness, clumsiness, and actual danger of this prescription.

3d. The instability, the absence of medicinal uniformity in the mixture, and the wholesale repudiation in its preparation of the most elementary pharmaceutical laws.

4th. The discreditable appearance of the compound; a phial filled with it presenting the appearance of water and molasses, with a heavy and deep sawdust-like precipitate.

5th. The inexcusable identification of the pathology of diarrhœa, in any of its various forms, with the pathology of cholera, in any of its stages.

6th. The reckless recommendations to the unprofessional of the use of opium and chloroform in cholera, it being well established that whenever the premonitory symptoms of the disease

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* Medical Department of the University of Louisville.

† Formerly of the Medical Department of the University of Louisville.

have existed for but a brief time (sometimes for an hour only after the first ushering in of the disease), that intestinal absorption has virtually ceased; and that when reäction sets in, nothing can be more dangerous, if not fatal, than the presence of unabsorbed laudanum and chloroform in the bowels; producing, as these must, fatal narcotism, or, if the patient escapes this, uræmic poisoning.

Apart from all of these very grave and serious considerations, the reader cannot fail to be amused over the queer blending of nominatives and genitives in this pharmaceutical anomaly; over the great parade made over this bad blending of a little opium with camphor; and over this endorsement of these blunders in Latin and Pharmacy, by five of the seven members of the Medical Faculty of the University of Louisville.

What has been so far stated is sufficiently comic, melancholy, and unfortunate, yet it becomes almost excusable when the reader is informed that at a meeting of one of the Medical Societies, of this city, a resolution deprecatory of what had occurred was inexcusably, after full debate, *laid upon the table!!* These votes were as follows:

AYES.—Drs. J. J. Speed, J. M. Keller, Edward Richardson, Turner Anderson, C. F. Ulrich, —— Polk—6.

NOES.—Drs. L. Yandell, Sr., L. Yandell, Jr., D. W. Yandell, Coleman Rogers, D. S. Reynolds, W. Bailey, —— Vaughn—7.

One of the chief opposers of the rosolution (sustaining the ethics of the Profession and censuring those violating it) was the late President of the American Medical Association. This is bad enough, but, wonderful to relate, this man is even now one of the Committee on Ethics in the American Medical Association.

If this vote is not reversed in the Medical Society of this city, and if these violators of law and their supporters are not punished by the Kentucky State Medical Society and the American Medical Association, the usefulness and respectability of these Societies will be fully and justly destroyed.

At present the newspapers of the city teem with advertise-

ments of a naturally burlesque character; endorsed, of course, by "leading physicians" (sic) and written to cast just ridicule upon a profession which has recently, through some of these "leading members," been made contemptible and ridiculous.

One of the last cholera prescriptions so advertised, and endorsed of course by "leading physicians," is an enema of Spaulding's Glue. It is even suggested that an enterprising Drug House is to issue a new form of water-closet paper, duly endorsed by all the "leading physicians" who may apply for such an advertisement; it being agreed that each sheet of this paper is to have printed upon it the certificate of such "leading physicians," with their names faithfully printed in full.

The moral of this whole matter is, that in every community there are a number of practitioners who are foolishly anxious always to have their names given to the public, as representing "the leading physicians" of the city. They may be medical sucklings; or professional imbeciles; or in some few cases men of respectable attainments, but such as they are, they become an easy prey to any ingenious and money-making House that will advertise them "as the leading physicians" of the city. One may dispose of them, as did the great Richelieu dispose of his aspiring but foolish professional associate; "and so Joseph would be a Bishop! Ah, poor Joseph"!!!

Some of the medical signers of this comically called "authoritative prescription" are gentlemen of good personal and professional character. Like many good men, they have made a great mistake. They are earnestly advised to retrace their steps and do a triple justice to the Profession, to the public, and to themselves, by publicly acknowledging their error, and by aiding to punish all who will not do likewise.

Cholera.—For the first time since 1867 the cholera seems as a limited epidemic to be prevailing in the United States. This number of the Journal is already much larger than it ought to be, but it seems proper that a short space at least should be devoted to a brief notice of the present disease.

The notice is written *cum currente calamo*, and is of course not intended as a dissertation upon the subject mentioned.

This epidemic seems to have made its first appearance at New Orleans, and has traveled thence northwardly and eastwardly, selecting, as it has always done, the routes of human travel. Many seem to think it strange that the disease should travel eastwardly, it being a popular error, sustained unfortunately too often by physicians, that cholera travels always westwardly. That it should have done so originally is natural enough, for appearing at Quebec June 3, 1832, immediately after the landing of the brig Carricks (from Dublin) with cholera on board, the disease must either have traveled westwardly or have never prevailed in America at that time. It is, however, a great fallacy to suppose that cholera travels necessarily from West to East. It traveled from Jessore to Canton, (eastwardly) a distance of 1,500 miles, in a brief period. Many other instances could be given, but this is one of the best, and being authentic, is sufficient. It has done so in this country.

Since the last epidemic, enough has been learned of the pathology of cholera to demonstrate that it is an entirely different disease from cholera-morbus or any of the forms of diarrhœa. The post-mortem appearances demonstrate this fact beyond cavil or dispute. A summary of these evidences will be given in the next Journal.

As to the cause of cholera, no one, even superficially acquainted with modern medical science, doubts that it is a specific poison; capable of being propagated by persons; by clothing; by cholera dejections; by contaminated water, privies, sewers, and commodes; by water, and to a limited extent by the atmosphere; by the cadaver, and by the usual fomites. As to its poison being in any sense identical with the poison of malaria (according to the usual significance of this word), none but monomaniacs, crack-brained enthusiasts, or medical old women in breeches entertain such a thought. One might as well cite now-a-days old authorities to the effect of the world being flat and not round, as to bring up fossil citations as to the local

origination, or the non-communicability of cholera. It is difficult indeed to find men of any real scientific acquirement or deserved professional position who doubt the fact of the cholera poison being a specific and transmissible poison. There are a few good men who, uninformed as to the writings of Simon, and Pettenkofer, Parkes and Griesinger, Thudicum, Budd, Farr, Macnamara, E. Harris, of New York, the publications of the Health Boards of London, Berlin, New York, and many other European and American cities, are yet unwilling to admit the communicability of cholera, but it would be difficult indeed to find any one of any scientific position, recognized beyond the limits of a small, half-informed home circle, who would so stultify himself and brave the universal ridicule of all scientific men, as to claim a local origin for cholera. But want of space forbids further allusion to this entirely settled question in regard to cholera. The specific nature and transmissibility of the disease being recognized, it is of course now admitted that, with proper education of the public mind, this poison can be so neutralized and destroyed by hygienic management, disinfection, etc., as to render the disease controllable. Of this there can be no doubt.

As to symptoms, it is not probable that modern science can add anything in this respect to the wonderfully well-made observations familiarly and generally on record.

In regard to treatment, much difference of opinion yet prevails. In the earliest manifestations of the disease, absolute bodily rest, dietetic care, the guarded use of sulphuric acid, denarcotized tinctures of opium, metallic salts, with external applications of warm stupes, etc., will usually speedily relieve the patient. The hypodermic injection of atropia, as described in one of the letters published in this number, is worthy of a fair and full trial.

When the second stage of the disease is developed, it must be confessed that science is not yet competent to rescue more than fifty per cent. from death. Frictions, the free use of carbonated waters, alcoholic and ethereal stimulants, champagne,

the application of bodily warmth, hypodermic injections of quinine (and atropia), and the free use of ice to quench thirst, etc.; these are the chief resources of the modern physician.

Of course, no one at this time, when the absorbents are all paralyzed, and the intestinal villi desquamated or inert, would be so rash as to use opium or chloroform. Indeed, before this condition takes place, as has been clearly demonstrated, opium, even when freely used, does not diminish the purging vomiting or the cramps of cholera. Should one, however, be so reckless as to administer such substances, he cannot, of course, be surprised, when intestinal absorption is reëstablished, that his patient should die of either narcotism, induced by his medical adviser, or from uræmic coma, due to a similar agency.

Calomel is still given by some "fossils," and when secretion has been reëstablished in their recovering patients, they are ineradicably certain that the reäppearance of bile is due to their mercurial favorite.

Both in the second stage and in the stage of collapse, transfusion is freely practised; some using blood, some artificial serum, some warm water, some Richardson's mixture, and some (with much success) milk freshly drawn from the udder. The use of milk thus has given better results than anything so far tried. Milk transfusion deserves a full and fair trial. Of course, patients improve after being transfused with any of these materials, but as a rule almost all of them soon fail, and sink soon into collapse.

In the reäctionary fever, the use of diuretics and diaphoretics, with liquid nourishment, is always indicated. Every means should be adopted at this time to cleanse the blood as speedily as possible of the different excretory elements which have accumulated; to mitigate the fever and prevent suffering by the ordinary means used, and to administer guardedly, but persistently, mild stimulants, with liquid norishment.

Every physician should constantly remember that cholera is a preventable disease, and that its dissemination can be con-

trolled; that it is due to a specific poison which can be neutralized and destroyed. Further than this, that cholera remains usually in any place for a period fairly proportionate to the hygienic condition of the locality. Strict policing, disinfectants, desicants, and perfect cleanliness of places and persons are absolutely necessary. Temperance in eating, drinking, mental and physical labor, prudence in dress, the avoidance of such food as is known to often induce diarrhœa, and the avoidance of all kinds of dissipation are the chief prophylactics. All persons should be warned against the use of all forms and kinds of cholera mixtures and medicines prepared by enthusiastic, unwise, speculative, and often ignorant druggists. Physicians owe it to the public and to the good of medical science to persistently and industriously perform this great and unquestionable duty. That any physician, instead of discharging this manifest and admitted duty, can aid and abet druggists in their most dangerous and unwise course, is inconceivable and marvellous. Respectable and humane druggists would not prostitute their avocation by compounding cholera mixtures, if they were aware of the dangers of such a course. They engage in such culpable traffic, as a rule, from excusable ignorance of the results, and it is but a friendly office for any physician to give proper advice on this subject to the druggists of his acquaintance. For physicians to aid and abet druggists in doing what the Profession so justly and severely condemns, is incomprehensible. No one would believe that a physician could so act unless the proofs of such action were indisputable. Many a cholera patient loses his life, and will lose his life, because, instead of sending promptly for his physician, he trusts his life to a mixture which he has learned is recommended by respectable practitioners. Many physicians, professionally and personally good, have made this sad, dangerous, and grievous mistake. May these few lines, hastily written to reflect some of the best opinions and best discoveries from many of the best men, aid also in arresting this dangerous evil.

Later.—The present epidemic of cholera is now known to

have been imported at New Orleans by two ships; one coming from Odessa and the other from the Baltic. The disease spread directly from those who reached New Orleans by these vessels. It has, since that time, followed, as it has always done, the routes of human travel. In Nashville it has prevailed with some malignancy, showing, as it has always done, a marked tendency to attack those who, from predisposing causes, hygienic and dietetic, are least able to resist it; the squalid, the poor, the cellar and basement-house dwellers, the injudicious consumers of bad or unsound food, the dissipated, the overworked. At Chattanooga and Huntsville the disease has been mild. At Cincinnati it is deadly. The disease in that unfortunate city is particularly fatal. After having examined, through the courtesy of Dr. Peters of New York, (sent out by the great city of New York to study this disease,) a map of Cincinnati prepared in reference to this disease, it appears that cholera has prevailed in almost all sections of that city; where it has been carried. It is traceable, in most instances, by family and friends. It has spread just as it germs have been carried. After examining the details of a very large number of cases (150) prevailing there; after examining names, nativity, history, locality, period of attack, and time of death, it is proper to say that this epidemic of cholera manifests all of its past fatality. Some die in four, some in six, some in eight hours; some live for twenty-four hours, some longer; but the fatality is as usual terrible; one in two. In Cincinnati little or nothing seems to have been done, and to be done, to control the disease. The communicability of this terrible scourge is not guarded or prevented, and the germs of the disease have been scattered all over the city. Like the Health Boards of all cities, the Health Board of Cincinnati has little or no power. The stupid masses and their municipal representatives can not be made to believe that educated, experienced men know more than they do, and therefore they are unwilling to grant them those powers which alone can now save them; the direct interposition of a merciful Providence being, of course, excepted. The disease in

Cincinnati is disseminated; fatal; beyond hygienic control; and the laws of chance, rather than the laws of science, must determine its future.

In Louisville, it is doubtful if any cases of true cholera have appeared. A few (less than six) have been reported. It is not believed that the disease has definitely made its appearance in Louisville. If the views of Pettenkofer are valid, and these views command great respect, it is believed that the geological peculiarities of Louisville will shield it in the future, as they have in the past, from serious outbreaks of cholera. The subsoil water of Louisville is from sixty to eighty feet below the surface, and, even after long rains, this water can not bring the poisons it contains near enough to the surface for mephitic exhalation.

The Health Board here has been active and vigilant, but it has not power. It has also failed to publish a most useful and important circular sent to it for publication. This circular is published in the Miscellaneous Department of this number of the Journal. Its value to the people and to the city is manifest and unquestionable, and the Health Board has committed a great and culpable error in not publishing it, as was necessary and as was requested. If trouble appears here, this failure to do a manifest duty is the incurring of a great responsibility, for which it will be held severely and publicly responsible.

What the future of the present epidemic may be, it is impossible to say. It behooves all physicians to speak the truth, fully and actively; to enjoin strict cleanliness, municipally and personally; to institute vigilant inspection; to correct all hygienic evils; to condemn all efforts to prepare or disseminate cholera specifics; to enjoin prudence and temperance in eating and drinking and working; and should the disease appear, to meet it fearlessly and promptly with all the resources known to modern medical science.

What is Gas?—Priestly and Cavendish and Faraday and De-La-Rive, etc., etc., have all tried in vain to give an answer to this interesting question. Those worthy gentlemen, Drs. G.

A. Moses, Professor of Chemistry in the Medical College of Alabama, and C. U. Sheppard, Professor of Chemistry in the Medical College of the State of South Carolina, can at their next College sessions be fully successful, if they give to their classes those extracts from their College catalogues relative to the repudiation of Beneficiary scholarships, or the making of their "Professors' tickets free." The heart of the enthused reader glows with glorious fervor, when he reads of all the admirable and beautiful philanthropy manifested by these remarkable eleemosynary institutions. The weary traveler in life's road, heart-sick with the daily spectacle of active or passive coldness to the poor and destitute, exclaims, relief at last! here at least are the noble, the generous, the warm-hearted; here, exclaims the sad and worn misanthrope, is a picture of charity far transcending that of the inspired Paul to his beloved Corinthians; here is the living water given without money and without price. But he reads on, and alas, and alas, the sweet glamour which had enveloped those large-hearted gentlemen and had presented a picture so welcome to the craving demands of his starving soul, vanishes like the early dew, and leaves his recently glowing heart parched and arid as before. He reads, that while these gentlemen think it undignified to give a Beneficiary appointment to a worthy but unfortunate young man; that while they think it censurable to charge the unfortunate for the usual tickets to the lectures; that while these benefactors insist upon charging absolutely nothing for their services, they yet extract from each student from $30 to $35. He can scarcely believe what he reads; that these gentlemen, professing to love these students so much, and to deride and censure those who charge students so much, should really be found extracting from each student within five dollars of what he would be required to pay in those cruel Medical Colleges at Nashville, Atlanta, Chicago, Cincinnati, and Louisville. The Charleston and Mobile Medical Colleges charge "nothing for Professors' tickets," but one charges $20 and the other $25 to each student for what? Matriculation (that is the device) and $10 each for the Demon-

strator, this pleasant and remunerative little footnote being furnished, "each student is required to take the ticket on Practical Anatomy."

Now, no one objects to these Colleges doing anything they please, provided that they do not, under the guise of immense charity and with a published censure of those who deal openly with students, pretend to be splendid embodiments of generosity, when in reality they extract from each student every dollar which it is possible for Colleges so circumstanced to obtain. The system of Beneficiary scholarships, by which all young men "known to be of good character, sufficiently educated to study medicine, and unable to pay the full fees required" (so reads the testimonial required by the Louisville Medical College), are educated for a fraction only of the regular College rates was a few years since generally derided; it has, since its success, been imitated openly by one New York College, the Medical Department of the University of New York, by Baltimore Colleges, one Richmond (Va.) College, by the Georgia Colleges, etc., etc. It is secretly practised by all Colleges, including even those Colleges whose published maximum fees are less than one-half of the fees of those Colleges which extend to unfortunate but well educated young men the benefits of an open, well understood, and clearly defined Beneficiary system. It is really practised by the "free colleges."

The writer wishes the Charleston and Mobile Colleges an abundant success. He hopes that they may achieve all that their Faculties desire and labor to attain; one of these Colleges is his alma mater; both of them represent in their Faculties many of the dearest friends of his boyhood and manhood. For this reason, and for many others, their success would be a source of great and sincere pleasure. But while from these causes their success would bring pleasure, their injudicious way of seeking success must bring pain.

The catalogues issued may deceive students, but they are easily analyzed by the Press. Most presses may prefer to be profitably silent. This Press prefers to speak openly and plainly;

whether expensively or not is immaterial. To speak plainly and truly is the proper course, and it is the course which will always be pursued; whether it leads to honorable failure or to honorable success.

Speaking plainly, then, these catalogues do not deal fairly with students. Where a student is charged $30 to $35 by colleges which were built or purchased for their Faculties; where the sum charged goes into the pockets of the teachers, it is neither fair nor honest to say to the student, that the Professors give their services and charge nothing for their tickets. If these were rented institutions, one could make due allowance for the present matriculation fee, which is from six to seven times larger than is charged by other colleges, or by these same colleges in times past, when the expenses which the matriculation fee is intended to meet were far heavier than they are now.

Though these schools state that they charge nothing for Professors' tickets, it is palpable that they do charge for Professors' tickets, and that their charge consists of the amount representing the difference between $5 (the universal matriculation fee in America) and the sum charged each student by these colleges. The Mobile College, for instance, extracts from each student $35. Deduct from this sum $5, which represents the matriculation fee in all colleges (and in the Mobile College heretofore), and it is manifest that each student in this college, instead of receiving his "Professors' tickets free," pays $30 for them. The same fact is true proportionally of the Charleston College; the Demonstrator receiving his portion.

It is to be hoped that these colleges may yet be successful under a different policy. Success with their present policy is impossible. Indeed, the Mobile College, which gives away its Professrs' tickets, could not find last year one hundred young men to accept them; and the Charleston College, giving away its tickets, was so ashamed of the class accepting the offer, that it does not publish even its size; and far less its names. The public demand, and have a right to demand, a plain and

straightforward policy of all of their public institutions; a plain and straightforward statement of facts. When schools say then that they charge nothing for Professors' tickets, while the facts are that they do charge for these tickets, the charge being made by appending it to the matriculation fee, the public will not sustain such schools. The facts stated are all too illusive; indeed, this illusiveness is so palpable as to insure detection.

All that is said in these catalogues, then, about these schools condemning the giving of Beneficiary appointments to unfortunate and deserving young men, and about the giving away of Professors' tickets, is the merest sophistry. The arguments are defective; the reasoning illogical; the statements untenable. The web woven and cast over the heads of the public is more tenuous and gossamer than any creation previously known to physics. Indeed, it belongs rather to the immaterial and æriform class of human products. It may well be said, that the chemists in these schools could find no better reply than that to be taken from their own catalogues, when in lecturing to their next class, they discuss the difficult question: *What is gas?*

Official.—At the last meeting of one of the Medical Societies of this city, the writer, upon his motion, was allowed to publish the following facts. Dr. J. M. Keller, of this city, offered, at a previous meeting of the Society, the following resolution:

"That the action of those Fellows of the College of Physicians and Surgeons who endorsed for publication a cholera compound or specific, which has been extensively advertised in this State as such, by a Drug House of this city, was in violation of the true spirit of the Profession and inimical to the health and welfare of the people."

This resolution was inexorably tabled by the vote given on page 144 of this Journal.

At the last meeting (July 10) of the Society, the following resolution, offered by Dr. E. Richardson, was passed by the vote appended:

"Whereas, it is not only in bad taste, but in flagrant violation of the ethics and spirit of the Medical Profession (and calculated to bring contempt upon it), for any of its members to endorse any advertised remedy or so-called specific issued by any druggist or other irresponsible person, or to have his name paraded in the public prints in connection with his medical or surgical practice, or his movements in society;

"Resolved, That this College discountenance and condemn all such acts as irregular, inappropriate, and unethical, and calculated to bring contempt on the Profession."

AYES—Turner Anderson, J. M. Keller, E. Richardson, R. M. Chilton, J. M. Ronald, Vaughan, Ulrich, and E. S. Gaillard.

NOES—D. S. Reynolds and W. Bailey.

NOTE.—It was known that this resolution was to be offered, but the endorsers of cholera specifics, their satellites and friends, very conspicuously absented themselves from the meeting, intending thus to evade the meditated rebuke which they were powerless to prevent.

The medical public will then please understand, that while a few physicians in Louisville have publicly endorsed a specific (and such a specific) for cholera, that after suspecting that they would be publicly rebuked, they failed to stand the test, and were publicly and officially condemned.

"A DANIEL COME TO JUDGMENT,"—A distinguished lady, from Tennessee, stated to the editor of this Journal the following fact: A prominent gentleman, from South Carolina, had often been compelled, in times past, to severely but justly punish a nefarious and trifling servant. He had subsequently entirely overlooked the worthless, treacherous fellow, and wished to forget him. A short time since, this gentleman had certain charges preferred against him, and was brought for trial before a modern tribunal of justice (!!) in South Carolina. To his extreme surprise and astonishment, he found that his judge was the trifling scamp whom he had formerly so frequently and justly punished. While reflecting upon the sad mutability of affairs, and the still sadder condition of society, as the result of which such a notorious and unscrupulous rascal could be elevated to the position which he then occupied, his judge recog-

nized him, and said: "Why, Mas Ed., is that you?" And then turning to the jury, continued: "Gentlemen, this case is dismiss!"

So it will be, if ever the editor of this Journal is brought injudiciously before the present Committee of the American Medical Association upon Ethics, Dr. D. W. Yandell, of Louisville, Ky., occupying, in part, the judicial chair; for the Louisville judge will, from similarity of reasons, repeat the appreciative exclamation of his African prototype: "Why, Mas Ed., is that you?" and with equal prudence he will say, in the language of the renegade official: "Gentlemen, this case is dismiss."

The Result.—The Governor refused to pay any attention whatever to the petitions sent in behalf of Robert Atwood, and this unfortunate man is now in the State Penitentiary, on a sentence of twenty years' confinement. The comments of this Journal upon the efforts of physicians to induce the Governor to grant a pardon have, of course, excited much feeling, comment, and condemnation; but they have elicited far more verbal and written praise. The writer was not controlled by his anticipations of either the one or the other.

It may as well be said here as at any time, that this Journal is not conducted now, nor has it ever been, for the purpose or with the view of securing local applause, local popularity, or local success. It is conducted in the interests of the Medical Profession. It has but one policy. To give the best scientific matter, and in regard to all professional matters to speak the truth. If thus it can secure the confidence and respect of good men, its editor will prize these most highly; but he does not care to secure these, or to secure the success of his Journal, in any other way. The Journal will advocate the interests of science and the good of the whole Profession. It will succeed with this policy, or go down with it. Such has been its course for seven years, and such will be its course always. Local praise or local blame does not control or change the course of the work in the slightest degree, and never will.

Its last local comments have cost it two subscriptions (the money for these being returned) and brought to it twenty-five. The Profession demand in a medical journal a true exhibit of current medical science, and a steady advocate of the truth in all matters appertaining to professional character. So far as is possible, so far as the editor of this Journal understands these subjects, its readers shall, to the extent of his capacity and means, receive these without fail.

MELANCHOLY DEATH.—The Profession will be pained to learn the sudden death, during the present month, of Dr. Geo. McRoberts, of Boyle county, Ky. He had prescribed for a patient what he believed to be quinine, and took a dose of the same medicine himself. In a short time both were dead. It is believed that the druggist had filled the phial by mistake with strychnine. Dr. McRoberts was highly esteemed, personally and professionally, and was much beloved.

PARKE, DAVIS & CO., DETROIT, MICHIGAN.—It is but just that this voluntary and unexpected notice should be given to this most excellent and reliable House; a leading manufacturing House of the West, and one of the very best in this country. Their pills, elixirs, chloroform, and pepsin, are made with great care, and have received the commendation of the best practitioners in the United States. The Eucalyptus Globulus (extract) sold by them is doing excellent service. It has been used as an antiperiodic with much success in this city, and as an expectorant and allayer of irritative cough in bronchitis it will give much satisfaction.

BREVITIES.

Milk Sops.—A new meaning is given in this city to this old word. When an astute milk-man induces a few medical men to drink more or less of his milk and give him a certificate of its excellence, *or the excellence at least of the samples examined*, he publishes their certificates, and the public very naturally terms the philanthropic and simple signers of these comic testimonials milk sops.——*The Milky Way.*—The via galactea or milky

way, with its matchless nebulous light shining softly in the firmament, has been justly admired for its celestial beauty; there is now, however, a new milky way, in which the sweet galaxy composing it appeal to all for admiration. This galaxy, unlike its celestial prototype, is seen in the morning, and, while composed of but a few orbs, attracts much attention.——*Anomalies in Advertising.*—Physicians can not advertise directly, but law can not prevent their doing so indirectly; these ways are many and curious; the operative way, by which those performing frightful operations, such as transfusion, or the clipping of the uvula, etc., are duly bulletined to the public; the peripatetic way, or endless advertising to indicate one removal; the comic way, or the periodical advertising, when business droops, for a lost dog; the spiritual way, or arranging with the sexton for constant and ruthless interruptions of church devotions; the intestinal way, or the newspaper endorsement of druggists' compounds for cholera mixtures, etc. These are all old and familiar. The most recent style, is to advertise in the milky way. As the Press is, in the words of Hamlet, "an abstract and brief chronicler of the times," this Press adds this most recent hint for the benefit of an enterprising and progressive Profession.

MORTUARY.

DANVILLE, KY., June 3, 1873.—At the meeting of the Boyle County Medical Society, held to-day, the following resolutions were unanimously adopted, and a copy ordered to be sent to the "Richmond and Louisville Medical Journal" and "American Practitioner" for publication:

GEORGE T. ERWIN, Secretary B. C. M. S.

WHEREAS, Dr. William A. Downton, late a member of this Society, has been removed from among us by the hand of Death; and whereas, in view of the same, it is becoming that some appropriate action should be taken by this Society; be it

Resolved, That in the death of Dr. Downton this Society has lost a valued friend and counsellor, who, although he had retired from the active duties of the Profession, he had long practiced with honor to himself and satisfaction to his patrons, was ever ready by his voice, his example, and his means, to aid every effort to advance the interests of the Medical Profession, or its worthy members.

Resolved, That in his death not only has our Profession lost a worthy representative, but the community has lost a public spirited and enterprising citizen, the Society a valued member and genial companion, the Church a tried friend and liberal supporter.

A. R. McKee,
R. W. Dunlap,
John D. Jackson,
Committee.

Notice.—This number of the Journal has been much delayed, on account of its unusual size. It should contain 112 pages; it does contain 160. The increased cost has been large, but it is believed that its subscribers will appreciate the liberality in giving them the most recent information in regard to subjects of great interest.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. AUGUST, 1873. No. 2.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—SUGGESTIONS RESPECTING THE INFLUENCE OF ALTITUDE ON PULMONARY TUBERCULOSIS. By J. BARTLETT SAUNDERS, M. D., Government Physician Hawaiian Kingdom, Sandwich Islands.

Whilst it is claimed by writers on Pulmonary Tuberculosis that a suitable climate has a modifying if not frequently a curative influence on that disease, it seems strange that such opposite views should be held by the professional and non-professional concerning the necessary qualifications of that proper climate. One recommends the consumptive to go to Minnesota; another equally eminent physician advises his patient, *similarly affected in every respect,* to visit Florida.

What have these climates in common that they should be equally applicable to similar cases? There exists coldness, dryness, diurnal variation of temperature and elevation above and distance from the sea in the former; whilst exactly dissimilar conditions obtain in regard to Florida.

The same observations apply to the elevated plains and regions of the Rocky Mountains, as compared with those localities most highly praised on the Pacific Slope, such as Santa Barbara, Los Angelos, San Diego, and Mazattan.

It may possibly happen that some physicians may advise their patients, upon whom they have fruitlessly wasted their remedies, to visit places concerning whose climates they are totally ignorant; and not being acquainted with the nature of the soil, the prevailing winds, the thermometric and hygrometric conditions of the atmosphere and its qualities of purity or impurity, how can their advice be aught but guess-work? Other physicians, thoroughly cognizant of the characteristics of the climate they recommend, doubtlessly ignore, sometimes, *atmospheric elevation as a constituent of climate, having in consumption an influence, for good or ill, varied according to the different stages of the disease and the previous residence of the affected person.*

Since my student days, under the instructions of Drs. Gerhard and DaCosta, diseases of the lungs have been subjects of special study with me; and during the last five years the climatology of such affections has engaged my attention. Having left my own home on account of ill health (dyspepsia and suspected "lung trouble") I traveled, in company with two consumptives (Dr. J. S. Brown, of Minnesota, and Captain Robert Grundy, since deceased, of Paducah, Ky.) slowly over some of the States and Territories lying between the Mississippi river and the Pacific ocean; and thus had favorable opportunities to note the different effects of the climates we traversed on the two well-developed cases of consumption mentioned above, also, on several others of the party *predisposed,* merely, to pulmonary disease.

The results of such experience, and of that obtained whilst a resident of Southern California, and of the Sandwich Islands, I propose to embody in a few suggestions for the consideration of my medical brethren.

The theory most in accordance with my views is, that *the in-*

itial lesion of tuberculosis is an error of nutrition, hereditary or acquired, originating in some morbid condition of the assimilating system; which condition may be caused by an habitual faulty dietary or some long-continued trangression of hygienic laws primarily affecting the digestive apparatus, or by a hereditary fault of function of one or more of the digestive organs.

The causes determining tuberculosis to manifest itself as pulmonary phthisis are many; among them to be named air impure in quality or insufficient in amount. I need scarcely add that, under these two heads may be ranked those occupations which either necessitate confinement within ill-ventilated apartments and the inhalation of irritating matters, or, which have a tendency to prevent a full functional activity of the pulmonary organs.

The conclusions from practical experience are, that nauseants or opiates which weaken or derange the functions of the digestive apparatus are of doubtful utility; that the majority of "cough mixtures" are too expensive, the patient purchasing momentary relief at too great a cost. But I propose to suggest, cursorily, answers to the questions: "How can rest and ease for a diseased lung be obtained? and, "How can the expectoration of the sputa be rendered easy *without the use of medicine?*

In respect to temperature alone, I will premise by stating that *great diurnal variations are more to be deprecated than monthly variations.* Hence monthly or annual means (or averages) give very erroneous ideas concerning the true nature of climates. Various reports in regard to Aiken, S. C., Minnesota, Los Angelos, Cal., and other places, are open to this criticism. A locality may have a most favorable *mean* temperature throughout the year or month, yet its thermometric extremes be wide apart and its changes sudden.

I am cognizant of climates whose greatest thermometric range from a fixed mean does not reach annually 7° F., nor $2\frac{1}{2}$° F. during any day in the year; never below 63°, nor above 78° F. is the nearest approach to a perfectly equable climate that I am aware of.

For those persons who are predisposed to consumption, but in whom no actual structural lesion can be detected by any sign or symptom, a high altitude is the best, with a temperature as cool as can be borne, without inducing chilliness to a degree from which reaction is tardy.

For all persons of a tubercular diathesis, hereditary or acquired, whose habits of life do not allow or compel them to fully expand their lungs in a pure atmosphere, but in whom are no actual deposits, high altitudes are to be preferred. In shrunken, ill-developed or paralyzed limbs, occasioned by non-usage or other causes, we endeavor to excite their functional activity by means of electricity, shampooing, or other stimulants; and functional activity begets structural activity (increased nutrition) and health.

A high altitude necessitates full breathing, and the functions of all the air-cells are forced into activity. The breathing capacity becomes greater; the blood flows more freely throughout the lungs, and any local stagnation or congestion (perhaps, even an exudation) the possible nidus of a future tubercular deposit, is apt to be removed. A more abundant healthy mucus is secreted, which, protecting the bronchial membrane and enveloping any injurious particles that may be inspired, is expectorated with less cough than when it was scanty or ill-natured. (Thus the benefits of expectorants are gained, without the disadvantages attending their administration.) Those air-cells, which, by non-use, were morbidly susceptible to the excitation of cold air, molecules of dust, noxious gases or other sources of irritation, lose this undue tenderness and gain tone by being functionally exercised in pure air.

For children with stooping shoulders, flat breasts, and impaired digestion, a mountain residence will enhance their chances of future immunity from pulmonary disease. Let pale clerks or sedentaries with hacking cough easily excited, nervous or dyspeptic, cease their spasmodic morning inflations of the chest, their fitful dumb-bell exercise and gymnastic labors, disproportionate to their strength and injurious in the ma-

jority of instances, and go with the children to inhale mountain air. There they will find that, whereas previously the expansion of the lungs was accomplished by voluntary forcible breathing, intermittingly resorted to, it will become involuntary, and therefore less fatiguing; continuous, and consequently more beneficial.

The improvement of digestion and appetite, a paramount desideratum in every case of tubercular disease, is generally improved by residence in mountain regions.

The tonic influence of cold upon the lungs and digestive organs all are well acquainted with, and the appropriateness of its presence need not be dwelt upon.

And there is a preservative or antiseptic (?) property pertaining to rare atmospheric media which may have an influence on the lung-tissue; I refer to the known fact, that wounds heal rapidly and the flesh of slain animals decay slowly in high localities; possibly, not only on account of a paucity of oxygen in the air, but because of the absence of those heavy vapors or gases, which gravitate to lower levels, and respecting whose properties science has not fully informed us.

For those consumptives in whom are actual deposits, ulcerations or cavities, structural disease, not retarded but progressive, the sea-level is the place, above all others, most preferable.

Those in whom the prolongation of life beyond a few days or months seems a bare possibility, will endanger that slender hope by entering high altitudes. The same reasons which might or *should* determine those of tubercular predisposition, merely, to seek a high elevation, would deter the structurally diseased from such a move.

At the sea-level, however, if the air be sufficiently warm and equable and devoid of other properties which might prove harmful, the necessary ærification of the blood can be performed with less of lung structure in action, and therefore with less effort and fatigue, than in rarer atmospheres. Those consumptives who go from high lands down to the sea, at once experience with how much less of respiratory effort they can

breathe than in elevated localities; and this seemingly immediate relief excites hope in the despairing sick.

Viewing an ulcerated lung as a broken limb, let us keep it quiet until it heals. Splint it with passiveness until recuperative change can be accomplished. In the case of the broken arm we enjoin absolute rest of the limb until the injury is repaired. We can not do this so completely with the crippled lung, but to a certain extent we can.

In the treatment of ulcerated stomach or bowels the same treatment guides us—we splint with opium—"put to rest"; we free these organs from their accustomed labor, by giving food less in amount and more easily digestible than that usually taken, but so concentrated in strength (or nourishing power) that the same sustenance is afforded by a small amount as would be by a larger quantity more diluted (with the waste matters).

In applying this principle to the treatment of pulmonary phthisis, we at once see the benefit to be derived from an atmosphere richer in oxygen than that ordinarily inspired, and as free from sources of irritation as possible. Whilst it may be true that moist air, of the sea-side, contains less free oxygen than dry air, and consequently has less diffusive capacity to intermingle readily with "the residual pulmonary air," yet this objection is probably more than counterbalanced by the lubricating property of moisture desirable in this stage of the disease.

As before suggested, there may possibly be exerted by rare atmosphere a beneficial influence on diseased lungs; and it may seem that the advocacy of dense air is contradictory to this suggestion; such criticism would probably be true of low places *inland;* but in the saltness of sea-air there resides a healing property wonderfully soothing to irritable or ulcerated lungs, as I have often experienced. The saltness of the "great deep" contributes probably more than its mysterious currents to preserve its own purity and stability.

May not the benefit derived from long sea-voyages, so

often recommended by writers on consumption, depend as much or more upon the special qualities of the inspired air than upon its purity (freedom from dust, etc.,) or any other negative property? We know that there must be evaporated from the ocean's surface something else than mere watery vapor. Possibly phosphorus, bromine, iodine, as well as chlorine, may exist in exhalations from the sea; and some one or all of these elements, though in infinitesimal and inappreciable proportions, may influence the invalid for good. ("Miasm," unrecognized in the air it infests, is known only by its effects). Each one of them has, upon good authority, proven of material advantage in many affections of the pulmonary organs, and it seems the easiest method of medication with these remedies, for the patient to be surrounded by and bathed in an atmosphere containing them, which, although in small proportions and not sufficient to irritate the pulmonary organs, nor interfere with the normal processes of respiration, would be so constantly in operation as to produce all the good results they might be capable of by artificial use.

These, however, are speculations; but that real benefit is to be derived by consumptives from a residence at the sea-side in otherwise favorable localities, I am positively assured from a not very limited observation; and will give hereafter the history of some example-cases; also, will note the characteristics of some places in the Rocky Mountain region, Coast Range of California, Southern California, and Hawaiian Islands, suitable for tubercular patients.

I trust that these suggestive arguments may be fairly considered by those physicians who are consulted by tuberculous patients. They will remember that, according to the views herein expressed, there is need for a rigid distinction between the climate suitable for cases predisposed (by hereditary transmission or acquired tendency) merely, and that adapted to those with structural disease (deposit, ulceration, inflammation, etc).

That the first class of cases can and will, in the majority of

instances, be measurably benefited by a residence in a climate, at sea-level, more particularly suited to the needs of the second class, structurally diseased, is not disputed; but that it is not *the climate par excellence* for that first class, I am fully convinced.

On the other hand, however, I deem it extremely hazardous for a person structurally phthisical to ascend into higher altitudes than his usual residence.

(To those in whom tuberculous deposits have been arrested, ulcerations have cicatrized, and other symptoms of progressive consumption passed away, yet who might possibly be deemed, *structurally*, diseased this remark does not apply). I have had cases under advice who, against my remonstrance, ascended without undue exertion, only a few hundred feet above the locality prescribed for them, and the supervention of hæmoptysis, increased cough and fever soon convinced them of their error. I have at present under treatment a young man who invariably has pulmonary hæmorrhage and other aggravated symptoms of consumption by a residence at an altitude of 900 feet above the sea level; but as surely loses these symptoms of progressive disease after his removal to the sea-shore, a few miles distant; although the location at the sea is devoid of all those surroundings (good food, pleasant companionship, mental occupation of interest, etc.,) which might favorably influence him otherwise, and which are present at the higher place.

If the ideas advanced in this paper are correct, is it not evident that the advice, "anywhere for a change," given to tuberculous patients indiscriminately is illogical, irrational, and dangerous?

Although it be criminal to advise one *in articulo mortis* to leave home and friends to die an alien among strangers, yet the well-considered opinion of a wise physician in regard to a change of climate may be, nay, often has been, the means of saving life.

I am well aware that food and medicine can do much to alleviate the sufferings of the hopeless cases, to retard the progress

of many, and completely cure some others; but climatic influence, rightly directed, is no mean adjunct to their operation. Nay, whilst good food is an indispensable requisite in the treatment of consumption, a proper climate will often entirely supplant the need for purely medical remedies.

To many consumptives, alas! the advice of "change of climate" would be mere mockery. The adverse circumstances of their lives forbid them the profit of this resource. "The mud-sills" of society, as the poor have been called, must decay in their appointed places. To prolong their lives and assuage their pains, the humane, aye, the Christly science of medicine must continue to lead its forlorn hope against the ghastly foe, flushed with hectic triumph and entrenched on his own chosen battle-fields; the office of the stooping clerk, the narrow workshop of the bent artisan, the over-crowded tenement house, the bleak abode of hungry poverty, the noisome haunt of misery and crime.

ART. II.—GENERAL OUTLINE OF THE SYMPTOMS OF YELLOW FEVER. By JOSEPH JONES, M. D., Professor of Chemistry and Clinical Medicine in the Medical Department of the University of Louisiana; Visiting Physician of Charity Hospital, New Orleans.

The symptoms of yellow fever may be divided for description and investigation into—

I.—*Those Manifested during the Period of Incubation, or that Period of time which elapses between the Introduction of the Poison inducing the Disease and the actual manifestation of the Febrile Phenomena.*—As this stage is of uncertain duration, the disease sparing neither age nor sex, those only being exempt from its influence who have, at some former time, been subjected to the action of the yellow fever poison, and its attacks being confined neither to the night nor the day, nor to any special state of the system,

whether of fasting or repletion, of plethora or uræmia, of robust health or chronic disease; and as the disease often attacks suddenly those who are apparently in perfect health, who are seized with intense headache, chill, shivering, pain in the limbs and back, followed by rapid elevation of temperature, increased action of the circulation, animated congested countenance, red, glistening, suffused eyes, intense thirst, anorexia, uneasiness of the epigastrium, nausea and vomiting; the investigation of the phenomena of the stage of incubation is attended with great difficulty and much uncertainty.

II.—*The Symptoms Manifested during the Exhibition of the First Disturbances in the Nervous and Circulatory Systems, Characterized by Chill and Chilly Sensations and changes of Temperature, and Severe Pains in the Head and Loins, Restlessness, Mental Depression, and Anorexia.*—The symptoms of this stage, which may be called that of chill or primary depression, are not uniform; in some cases, and even in those of the greatest violence, chill and chilly sensations are entirely absent; in others, the chill amounts only to a sense of coldness, sometimes slight, at others deep, penetrating, and stupefying, or alternating with flushes of heat and crawling sensations; whilst in others, the febrile excitement is preceded by chills of greater or less severity and duration, with a constriction or contraction of the extreme peripheral vessels, and a shriveled appearance of the skin; in some cases again the disease is ushered in by giddiness, bearing some analogy to that produced by inebriating liquors; and in others it has been known to have commenced with convulsions.

Neither the presence nor absence of chills and chilly sensations can therefore be regarded as characteristic of yellow fever; and the chills, when most strongly marked, appear to differ materially from the *chill of paroxysmal malarial fever*, in that there is an absence of uniformity in the phenomena, and that the chill or cold stage of yellow fever partakes rather of the aberrated nervous actions and sensations, referable to the action of the cause producing the intense pain in the head and

loins, than of that marked depression of the temperature of the internal organs, even to the degree of 107° F., which I have shown by careful observations* to be characteristic of the true malarial paroxysmal chill. The chill and chilly sensations of the early stages of yellow fever appear rather to be related to the same manifestations of aberrated nervous action in the early stages of various acute diseases, as pneumonia, pleuritis, and small-pox. As these symptoms are often absent in yellow fever, as they occur in the earlier stages, and as they are in most cases of short duration, it is not often that the physician has the opportunity of investigating the phenomena by means of the thermometer and sphygmograph, and by the careful collection and analysis of the urine excreted during this period.

III.—*The Symptoms of the Stage of Re-action or Active Febrile Excitement following the Chill and Chilly Sensations, or arising as it were spontaneously, with but few premonitory symptoms beyond Uneasiness and Pain in the Head, Loins, and Limbs, and General Prostration and Languor, Characterized by rapid elevation of temperature, which is maintained with slight morning and evening oscillations for periods varying in different cases from one to six days.*—During this stage of active febrile excitement, profound changes are induced by the yellow fever poison, by the products to which it gives rise in the blood and organs.

The maximum elevation of temperature is rapidly attained, and may range during the first days of the disease, according to its severity, from 102° to 107° F. in the axilla, and it is probable that the internal organs attain a still higher temperature.

As a general rule, from the third to the fifth day, the temperature steadily falls and sinks down to the normal standard and even below; in some fatal cases it rises again toward the end, rarely, however, reaching or exceeding 104° F., and never

* Observations in some of the Physical, Chemical, Physiological, and Pathological Phenomena of Malarial Fever. Trans. Am. Med. Association, 1859.

attaining the high degree of temperature characteristic of the stage of active febrile excitement.

The supervention of an inflammatory disease, or the occurrence of an abscess, will, in like manner, cause a progressive elevation of temperature, with slight evening exacerbations; but, as a general rule, the secondary elevations of temperature, thus caused, never equals the maximum of the stage of active febrile excitement.

When malarial paroxysmal fever is engrafted upon yellow fever in its latter stages, or during the period of convalescence, the temperature during this hot stage may even exceed the maximum of the hot stage of yellow fever, but will be characterized by sudden periodic depressions and elevations recurring at definite intervals.

The pulse, at the commencement of the attack, when the period of reäction or active chemical change has fairly set in, is often rapid (ranging from 100 to 140 per minute), strong, tense, and full; in other cases it is rapid, but feeble and compressible; the increase in the frequency of the pulse does not, however, as a general rule, continue to correspond with the elevation and oscillations of temperature; and in many cases the remarkable phenomenon is witnessed of the pulse progressively decreasing in frequency, and even descending below the normal standard, whilst the temperature is maintained at an elevated degree; and in the examination and comparison of these discrepancies between the frequency and character of the pulse and the oscillations of the temperature, the observer is forced to the conclusion that, during the hot stage, some *poison* or depressing agent is acting upon the heart, or upon the nerves which supply its muscular structures and regulate is actions. On the other hand, the pulse frequently increases in frequency, but diminishes in force near the fatal issue.

The occurrence of copious hæmorrhages from the stomach and bowels may be attended with sudden depressions of temperature, and increase in frequency, but diminution in force and fullness of the pulse.

The stage of febrile excitement is not of fixed duration, and may, in some cases of the gravest character, appear to be comparatively mild and unimportant, attracting so little attention, and the pains, wherever seated, may be so mild, and there may be such an absence of agitation and delirium, and the strength of the patient may be diminished to so slight a degree that both patient and physician may be deceived, and the patient may die without taking to his bed, *on foot as it were.*

Thus Louis recounts the case of Dr. Mathias, who died after an illness of four or five days, and who experienced no other symptoms but some pains in the calves of the legs and a suppression of urine. He had no nausea; he did not vomit. His mind was clear through the whole course of the disease. He noticed the continuance of the suppression of urine; dictated three or four letters to a friend; begged him to write rapidly, so that he might sign his name; then devoted a little time to an affectionate intercourse with this friend, and soon after, unable to speak, he thanked his friend with a sign, and in a quarter of an hour he was dead.

In the month of October, 1870, a stout Irishman walked up from the gate of the Charity Hospital of New Orleans, and entered one of my wards upon the third floor up stairs, presenting to the casual observer no special marks of disease beyond some congestion of the capillaries of the face and extremities, a dusky, livid hue, a slight increase of heat, and restlessness. A few hours after entering this ward, he vomited about one quart of black vomit, and died in convulsions twenty-four hours after his entrance into this ward.

The black vomit ejected during life, as well as the portion which filled the stomach after death, presented the appearance and character of dark grumous blood, was of high specific gravity and *alkaline re-action*, contained both *ammonia* and *urea*, and also an immense number of altered, colored blood corpuscles. Careful microscopic examinations, with lenses of different powers, ranging from one-quarter to one-eighteenth of an inch, revealed no animalculæ or vegetable organisms; (*fibres* and

fungi are frequently present in black vomit, but as far as my observations extend, they have nothing to do with its causation.) The superior portions of the body of this patient, after death, presented a deep *golden yellow color*, whilst the dependent portions presented a purplish, mottled, ecchymosed. and congested appearance; the heart was pale, yellow and flabby, and contained many oil globules, and the muscular structures or fibres presented an altered appearance under the microscope; the transverse striæ being less distinct, and the interior of the muscular fibrillæ, as well as the connective tissues, being loaded with oil globules. The kidneys were pale and of a yellow color, resembling that of the heart, and the excretory tubes were filled with albuminuria and fibroid granular matter, excretory cells, and oil globules. The bladder contained no urine, there having been complete urinary suppression since the entrance of the patient into the hospital. The liver presented the usual yellow color and bloodless appearance of this organ in yellow fever, and the liver cells contained an abnormal amount of oil.

In these changes yellow fever resembles acute phosphorus poisoning.

The gall-bladder, as is usual in this disease, contained only a small quantity of yellow bile, not exceeding one hundred grains in amount; whilst in malarial fever, on the other hand, the gall-bladder, after death, is almost universally distended with dark, greenish-black bile of high specific gravity, and generally about one thousand grains in amount.

In some cases of yellow fever which I have observed in New Orleans, the symptoms have rapidly changed from active excitement to utter prostration, and the patients have been speedily destroyed by hæmorrhage from the bowels, without any vomiting of the altered blood and gastric secretions which constitute black vomit.

As far as my observations extend, *suppression* of urine is a universally fatal symptom, and is the prime cause, not only of the copious hæmorrhages from the stomach and bowels, but also

of various alterations of the blood and nervous disturbances, and of the sudden and apparently inexplicable deaths.

Suppression of urine in yellow fever is attended with the accumulation of the constituents usually eliminated by the kidneys, as urine in the blood, brain, liver, and heart, and muscular organs, as I have demonstrated by numerous analyses. Bile also accumulates in such cases. The presence of the coloring matter of the bile in large amounts in the circulatory fluid may be demonstrated by a simple experiment: thus, if a drop of blood be dropped upon a piece of filtering paper, a brilliant red central spot will mark the presence of the colored blood corpuscles, and this will be surrounded by a bright golden border or ring, due to the absorption of the serum deeply tinged with bile.

The peculiar indifference and even intoxication which mark the cases of suppression of urine are referable chiefly to the retention of the constituents of the urine and the bile.

The *changes of the blood* in such cases of yellow fever are characterized chiefly by great *diminution of the fibrin*, which, in some cases, I have found to be not *one hundredth* of the usual amount; and by the *abnormal amounts of urine and ammonia and of the sulphates, phosphates, and extractive matters.*

I have found the stomach and intestines so charged with ammonia, even when examined within three hours after death, that a rod dipped in hydrochloric acid, held over the mucous membrane of the stomach and intestines, gave forth dense white fumes (chloride of ammonium).

It is without doubt true that the poison of yellow fever acts as a direct irritant or poisonous agent upon the mucous membrane of the stomach, not only by deranging its nervous supply and capillary circulation, but also by directly altering the nutrition and secretion of its active cellular elements; but at the same time it is also true that the poison acts equally, if not to a more marked degree, upon the liver and kidneys, thus causing in many cases complete suppression of the function of

both organs, and the consequent contamination of the blood with bile, urea, and extractive matters and ammonia.

The excrementitious matters thus retained in the blood not only exerts a depressing action upon the nervous and circulatory systems, and change the important nutritive actions of the colored blood corpuscles, but the urea, eliminated as such, and as carbonate of ammonia by the gastro-intestinal mucous membrane, alters the constitution of the intestinal and gastric juices, and directly the mucous membrane of the stomach and bowels.

Analogous cases to those just described are witnessed in the action of certain violent poisons, which act alike upon the nervous system and blood.

It is but just to view such cases as a febrile action of an infectious character, during its peculiar characters and malignity, from the nature of the cause, which produces such profound disturbances in the nervous system, blood, and organs that only a feeble and powerless reäction is possible under the action of so violent a poison.

The action of the poison of yellow fever, during the stage of active febrile excitement, is manifested not only by the intense pain in the head and back, and by the florid congestion of the capillaries of the eyes and skin, and by the loss of appetite and nausea, and by the elevation in the temparature and increase in the frequency of the pulse, but also by the appearance of *albumen* in the urine, which is rarely absent, and may make its appearance upon the first day of the febrile excitement.

Whilst it is true that the excretory cells and casts of the urinary tubes appear simultaneously with the albumen in the urine, I have also shown by careful analyses of the urine, that the presence of this constituent of the blood in the urine, is not to be referred wholly to acute desquamation of the excretory cells and tubes of the kidney, nor to mere capillary congestion similar in all respects to that in other organs, but equally to the chemical change effected by the poison of yellow fever upon the albumen of the blood.

I have shown by continuous observation and analysis, during different stages of the disease, that the albumen appears in large amounts in cases where there is apparently no failure in the excretory action of the kidneys, and in which the urine was abundant and loaded with urea and other constituents of the urine, and also with bile. Whilst the presence of the blood corpuscles and coloring matters of the blood may be determined by chemical and microscopical investigation of the urine in some case of yellow fever, at the same time the presence of these constituents of the blood are not uniform and characteristic, as in the cases of that form of severe malarial fever, which, in our Southern States, is now known as Malarial Hæmaturia.

In this latter disease the casts and excretory cells of the kidney tubes may be present in considerable numbers, but only that amount of albumen is present which would correspond to the colored blood corpuscles and coloring matters of the blood escaping at the same time.

In yellow fever, on the other hand, even when blood appears in the urine, the albumen is vastly more abundant than the colored blood corpuscles.

The congestion, so marked upon the mucous membrane of the eyes, and upon the breasts and arms, in some cases, a "subcutaneous rash," extends also to the internal organs, and is best observed in the injected nares, crimson lips, scarlet lip and edges of the tongue, and brilliant congested fauces. The fact that the examination of the congested throat causes nausea and retching, when the tongue is pressed down by the finger or spatula, is of importance as a diagnostic sign; and Blair affirmed that when marked congestion is not observed in the eyes and nares, and throat in yellow fever, it will be observed by means of the speculum, in the mucous membrane of the anus and vagina. This intense capillary congestion not only characterizes the mucous membrane of the stomach in yellow fever, but it is even manifested in the pericardium after death.

IV.—*The Symptoms Manifested during the Stage of Depression and Exhaustion, in which the Depressing Effects of the preceding Changes of the Blood and Organs induced by the action of the Febrile poison and its Products are Manifested.*—In cases which terminated favorably, the deleterious substances generated during the stage of febrile excitement are gradually eliminated, and the blood purified and relieved of the altered albuminoid and fibrinous elements, and the organs especially affected by the poison, as the heart, liver and kidneys, resume their healthy actions.

In cases which terminate fatally, in this stage, the issue appears to be determined mainly by the profound alterations of the blood, the failure of the heart, from acute fatty degeneration, and suppression of the action of the liver and kidneys, and the consequent retention in the blood of urine and bile, and the poisonous action of the constituents of the urine and bile upon the blood, and nervous and muscular systems and gastro-intestinal mucous membrane.

There appears to be no just ground for the division of the fourth stage, in accordance with the presence or absence of hæmorrhage, jaundice, uræmic poisoning, and convulsions, for these are simply aggravations of the preceding symptoms, and must be regarded as the maximum phenomena of this stage.

Neither is this stage to be regarded as similar to, or identical with the intermission or remission of malarial fever, and as an abortive attempt at the repetition of the febrile stage, in which the disease ends or aborts from adynamic incompetency to carry out the phenomena.

These stages are not of uniform duration, and there may be marked diversity in the manifestations of the symptoms in individual cases, some cases presenting, apparently, but the one stage of febrile excitement, whilst others, overwhelmed as it were by the poison at once, manifest only the symptoms of blood poisoning, arrest of the action of the heart and nervous system, and hopeless prostration.

In mild cases, especially in children, the disease may be so

slight as scarcely to attract attention, and convalescence may be established in two or three days; in many cases the stage of febrile excitement continues from two to six days, rarely extending beyond three or four days, and the patient may pass almost imperceptibly into convalescence during the stage of depression; in the severest cases the patient may be carried off in two or three days and die with an elevated temperature; whilst in other severe cases, which end fatally either from hæmorrhage from the stomach and bowels, or from urinary suppression, or from both causes, or from general prostration of the system, derangement of the blood and perverted nutrition characterized by a low adynamic fever, and abscess of the parotids, and the revival of old complaints, and the supervention of some other disease, as malarial fever, the fourth stage may be of long duration, extending over weeks and even months.

It is, however, true as a general rule, that convalescence from yellow fever is comparatively rapid, and in striking contrast with the slow and tedious convalescence of malarial fever. In some cases vomiting may be the preëminent symptom, in others, hæmorrhage from the stomach and bowels, or from the gums, eyes, and ears, indicating great alteration of the blood, and especially of the fibrinous element; and in others, cerebral symptoms; but all these symptoms may be referred to certain definite results of the action of the poison of yellow fever.

Yellow fever, according to this view, partakes of the nature of a *continued pestilential fever*, presenting two well defined stages: The first characterized by *active chemical change in the blood and organs*, attended with elevation of temperature, aberration of nervous phenomena, which may constitute the entire malady, and prove fatal in a manner similar to the infectious fever of small-pox; and the other, a *stage of depression induced both by the sedative action of the febrile poison and by the profound changes excited in the constitution of the blood, and in certain organs, as the heart, liver, and kidneys, and by the direct sedative and poisonous action of the excrementitious matters* retained in the blood, in consequence of the failure of action in

the liver and kidneys, and by the arrest and perversion of digestion in consequence of the direct action of the yellow fever poison, in causing perverted nervous action of capillary congestion and active desquamation of the secretory cells of the stomach, and in consequence of the elimination of certain constituents from the blood, as the urea and carbonate of ammonia.

Whilst the phenomena of yellow fever are well marked, and different from those of other diseases, at the same time the duration of the disease and the intensity of the symptoms will depend in each case upon the condition of the system at the time of the introduction of the poison, the various agencies to which the system is subjected during the progress of the disease, as the supply of pure air in comfortable, well-constructed and thoroughly ventilated rooms, or of impure air in filthy, damp and crowded habitations, and in filthy and crowded ships, the diet, medical treatment, climate (whether hot and dry or hot and moist, uniform or subject to great and sudden elevations and depressions of temperature, malarious or unmalarious); but the duration of the disease and the character and intensity of the symptoms will especially depend upon the extent to which the blood and organs have been involved and altered by the changes excited by the poison.

The various manifestations, as the capillary congestion, depression of the action of the heart, delirium, coma, and convulsions, vomiting, hæmorrhage, and urinary suppression, *uræmic poisoning* and jaundice, with *biliary poisoning*, may all be referred to the action of the poison producing the disease, and should not be erected into distinct types of disease. And even in those sudden and appalling cases in which there is such a modification of symptoms between the stage of active febrile excitement and that of active depression as to produce a deceitful sense of security, in both the medical attendant and patient, in which period of apparent calm and convalescence the patient asks for food, proclaims himself entirely restored to health, and insists upon getting up and walking about, the sud-

den fatal issue which astounds the friends of the patient, as well as his medical attendant, has been *silently but surely induced by the failure of the kidneys to eliminate the poisonous materials from the blood,* and the fatal mischief may have been working for hours and days, unobserved and unrecorded by the medical attendant, who has neglected to examine carefully, at stated intervals, the amount and character of the urinary excretion, through which the deleterious products of the poison are mainly eliminated.

Whilst it is true, that few cases of yellow fever resemble each other exactly, some cases being characterized throughout by symptoms of excitement, and others by their prostration, in some cases the cerebral symptioms being most marked, in others hæmorrhage from the stomach and bowels constituting such prominent symptoms as to give a distinctive feature to the disease, at the same time there appears to be no just ground for the division of the disease into such distinctive types as would lead to the supposition that *the cause* might differ in different cases, and that the phenomena might not all be referred to the action and results of a *definite cause.*

The action of the yellow fever poison is the same in all cases, whether mild or severe; the progress and termination of each case, as well as the manifestation of the various symptoms depending upon the extent of the action of the poison, the condition of the system at the time of its introduction, the peculiarities of the constitution, and the supervention of other diseases.

In a word, the action of the yellow fever poison is *distinct,* and the disease is characterized by *definite manifestations,* just as each species of plants and animals manifests distinctive laws of development and growth and physical organization, which may be the subject of investigation and accurate description; and whilst the laws may be modified in their manifestation by various extraneous causes, the grand distinctive characters are maintained, and may be propagated from age to age.

Yellow fever is a *self-limited* disease; it runs a *definite course*

and then ceases. When once fairly established in the human system, yellow fever can not be arrested by drugs. On the other hand, it is well established that paroxysmal malarial fever may be arrested and cured by bark and its active principle quinia. Yellow fever may be conducted to a successful issue by the attentive and careful physician, but it can not be *arrested*.

ART. III.—HYSTERIA, WITH ANOMALOUS SYMPTOMS, SUCCESSFULLY TREATED BY THE ADMINISTRATION OF CHLORIDE OF GOLD AND SODIUM. By JOHN B. RICHARDSON, M. D. Louisville, Ky.

On July 19th, 1872, I was called to see Mrs. ——, aged seventeen and a half years, medium height, slender, brunette, well developed for one of her age; married two years; had never conceived; complained of irregular and painful menstruation, missing her periods for several months, then returning, but small in quantity.

Upon visiting her next morning, I found her in marked hysterical convulsions, from which she had been suffering at intervals of but a day or two for the long period of eighteen months. These hysterical eruptions occasionally similated epilepsy, catalepsy, tetanus, and other distressing maladies, notwithstanding the free use of antispasmodics and all the usual remedies and observations generally employed in such conditions. Chloroform and chloral had no good effect.

At no time did she have *urina spastica;* on the contrary, retention, necessitating regular use of catheter, the quantity of urine being normal.

August 3*d*.—Made vaginal examination, found marked diminution of cervical canal, requiring dilatation with sea-tangle tent, which was used, and followed within forty-eight hours by quite abundant menstrual discharge, attended by slight pain. The peculiar features of the case, aside from the extreme violence and continuance of the convulsions, were arterial hæmor-

rhages from conjunctival lining of superior and inferior eyelids, in quantity from three to four tablespoonsful at each recurrence. These recurrences were sometimes daily, every other day, or weekly, the blood streaming or weeping for two or three hours at a time. Upon everting the eyelids no solution of continuity could be discerned with the aid of a pocket magnifying lens. There were also occasional attacks of hæmoptysis, which would continue several hours, with the loss of mouthfuls of bright scarlet blood, which, under the microscope, exhibited the familiar blood corpuscle, as did that from the eyelids.

After several weeks spent in vain attempts to control the convulsions, which were rapidly exhausting her, I concluded to try Niemeyer's treatment, the internal administration of the double salt of chloride of gold and sodium, according to the following formula:

℞.—Auri Chlorat. Natronat., grs. v.;
Gummi Tragacanth, ʒ j.;
Sacch. Alb. q. s. u. f. Pil. No. 40.

Signa. One pill one hour after dinner and supper; gradually increase the dose to four pills twice daily at these hours.

After three or four day's use of these pills, I found the convulsions lessen in severity and duration, and on the eleventh or twelfth day to disappear altogether; but returning if allowed to get from under the influence of the gold; this I did on three or four occasions to test its efficacy. In addition, I had her use (both before and after the institution of the gold treatment) the sponge-bath twice daily, with other hygienic measures strictly enjoined. I also established a seton in nape of neck, and applied leeches to temples to relieve pain in head, the result apparently of cerebral congestion, conditions which seemed to provoke the hysterical convulsions.

For the great pain in the head, which preceded or accompanied, almost invariably, the convulsions, and the pain in the ovarian regions, I used hypodermically morphia and other narcotics; the patient, as is usual, becoming accustomed to their effects, necessitating the gradual increase of dose. I may here

remark, that while attempting to obviate this difficulty, I discovered that Hoffman's anodyne was antidotal to morphia; for in one instance my patient took, hypodermically, an overdose of morphia, producing stertorous breathing, pin-hole pupil, and other evidences of narcotism. I promptly and entirely overcame the undesired effects of the morphia by giving my patient drachm doses of Hoffman's anodyne, repeated every fifteen minutes until several doses were given. I also found that when the necessity for increase of morphia occurred, by giving one or two doses of atropia, the minimum dose of morphia would produce the desired effect.

The gold, with the other means resorted to, enabled me to hold the hysterical symptoms in check, until I was able to build up the system with tonics, such as the vegetable bitters, cod-liver oil, iron, etc.

In about two months after I instituted the gold treatment, she was able to leave her room and take full exercise, having since no return of the hysteria.

After enumerating some of the nervines which are most frequently employed in this affection, Niemeyer says: "I have accidentally hit upon a nervine of great efficacy in hysteria, and have made use of it with signal effect in many cases where there was no indication for the local treatment of uterine disease, or else, where the hysteric symptoms persisted, although the local uterine affection had been cured. I mean the chloride of sodium and gold. I had read that Dr. Martini, of Biberach, regarded this article as an efficient remedy against the various diseases of the womb and ovaries.

"As the diseases which this gentleman (a much respected gynæcologist in his district) claims to have cured by this drug, for the most part, belong to that class of disorders which are incapable of resolution, and which are incurable, in the strictest sense of the word, and as I had no reason to doubt the veracity of Dr. Martini, I could only infer that the cases had been imperfectly observed. My suspicion that the chloride of gold and sodium, like other metallic articles, was an active nervine, and

that the improvement effected upon Dr. Martini's patients was probably due to this property, was fully confirmed by what followed.

"After having employed the medicine in question for several years, and in a great number of cases, and, encouraged by my success, having recommended it to my pupils as one of the most effective of nervines, I ascertained that the chloride of gold has been recognized as a special reägent upon the nerve tissues, and that it is much used for this purpose in microscopic investigations. Such a discovery, probably, would never have induced me to make use of it as a remedy, but now this piece of information is of great importance to me, as a confirmation of the fact that the curative action of this remedy had been rightly interpreted."

Professor Coleman, druggist, corner of Second and Chestnut streets, who prepared this double-salt used in this case, tells me, this compound, as referred to in the United States Dispensatory, is entirely different from the article of the same name usually found in the market and manufactured for photographic use. The latter, as quoted in Powers & Weightman's price-list, contains equal parts of the chloride of gold (Au. Cl.) and chloride of sodium, while the former is obtained by first converting four (4) parts of chemically pure gold into the chloride of sodium, dissolved in a small quantity of water, and evaporating the mixture. Hence it will be observed, that the double-salt, as required in the United States Dispensatory, contains a far larger quantity of gold than the commercial article, and as it is this medicine which is wanted for its medicinal agency, it is obvious that the commercial chloride of gold and sodium can not be, with propriety, substituted for the true double-salt.

ART. IV.—POISONING BY THE DATURA STRAMONIUM—RECOVERY, WITH SYMPTOMS DIFFERENT FROM THOSE RECORDED IN THE UNITED STATES DISPENSATORY. By B. M. WIBLE, M. D., Louisville, Ky.

A little after 10 o'clock, on the night of June 17, 1873, I was called to see an old gentleman and his wife, who were accidentally poisoned by drinking ale from a bottle which contained a large amount of the seed of Jamestown weed, or *Datura Stramonium*. It is the custom of ale-brewers to buy up old ale-bottles, to be refilled with ale, and they are not as careful to have them cleaned as they should be, notwithstanding they are liable to contain bed-bug and other poisons, as well as green flies. The dark color of the bottles conceals all impurities. Is this why ale-bottles are made black?

I will describe the two cases separately. The wife drank first about half a glass of the ale near 7 o'clock P. M.; I saw her at about 10 o'clock P. M., when she presented the following symptoms: Pulse full, strong and 120 to the minute; confusion of mind and continued reaching out for imaginary objects; inability to talk, apparently from paralysis of the tongue; almost entire loss of power to swallow, probably from paralysis of same cause. She sat upright on a lounge, being supported by an assistant on either side, and refused to be placed recumbent; pupils largely dilated, and a very marked *flushing of the hands, arms, face, neck, and back.* This rash resembled that of scarlatina simplex, the bright red disappearing under pressure, and immediately returning after removal of the pressure. There were frequent and violent convulsions, particularly of the arms, face and neck.

At the time of my visit, Dr. Bodine, who was called in, had given her an emetic of twenty grains of ipecac, with two grains of tartar emetic, which, with irritation of the fauces, provoked very slight vomiting, and the ejection of a part only, I suppose, of the contents of the stomach. The emetic was imperfectly given, owing to the difficulty of swallowing, and its action

could not be promoted by drinks, from the same cause. Nothing else was done for her except to bathe the face with water, and to keep her diligently fanned. At 1 o'clock in the morning she was carried up stairs to her bed-room, being entirely unable from muscular debility to walk. Soon after being placed in bed she began to recognize those around her, and had ability to articulate a few words. The next morning, about half-past 8 o'clock, found her much relieved, the efflorescence of the skin having disappeared, the pulse normal; but a sense of great debility, dilated pupils, and imperfect use of the tongue remained. During the day her recovery became almost perfect. She took a dose of castor oil, and to-day, July 1st, is entirely well, and no apparent injury has followed her poisoning.

She states that the ale was not pleasant, and that she felt soon after taking it a peculiar intoxication come on. Her poisoning was more intense than that of her husband, owing probably to the effervescence of the ale throwing up more of the seed in what she took than was in that which her husband took.

The husband drank about two-thirds of a glass. He describes the ale as unpleasantly bitter, and that while attending a meeting of a benevolent character, he felt peculiar. Nothing had been observed as to his being poisoned until after 10. He was sitting in a chair attending to the extreme condition of his wife, when it was observed that he articulated with difficulty, and that his skin showed the same red appearance, the pulse the same rapidity, and the pupils dilated as those of the wife. In removing him to another room, it was discovered that his limbs were so feeble that he had to be carried. An emetic of salt and mustard was given him, he threw up freely, the egesta containing grains, which were afterwards supposed to be those of the stramonium. He recovered promptly from the disagreeable poisoning symptoms, but he has suffered ever since with alkaline urine, and with so much distress in passing it, that he is yet confined to his home.

It was not until the next morning that either Dr. Bodine or myself discovered the poisonous agent. We took the bottle

that contained the ale to Mr. Scheffer, a druggist, and an able chemist and botanist, and found many pods of the stramonium, two or three tablespoonsful of the seed, and three or four pods of red pepper. The ale drunk was described as being somewhat pungent. Neither Dr. Bodine nor myself had any clew to the poison during the night, but both expressed the opinion that the symptoms were due to some narcotic agent, most probably stramonium or belladonna. The dryness of the throat, characteristic of the belladonna, was not present, nor are the exanthematous skin and rapid pulse symptoms produced by stramonium, as described by authors.

The information which these cases of poisoning afford is important. It shows that stramonium is a *vaso-dilator*, and explains its action in relieving paroxysms of asthma. If the agent can be made to act on the system quickly, as it probably can by hypodermic use, would it not be the remedy for shock in which there is great vascular contraction, and can it not be made to take the place of nitrite of amyl?

ECLECTIC DEPARTMENT.

"Carpere et colligere."

Art. I. — Rules for the Management of Infants during the Hot Season.

Rule 1.—Bathe the child once a day in tepid water. If it is feeble, sponge it all over twice a day with tepid water, or with tepid water and vinegar. The health of a child depends much upon its cleanliness.

Rule 2.—Avoid all tight bandaging. Make the clothing light and cool, and so loose that the child may have free play for its limbs. At night undress it, sponge it, and put on a slip. In the morning remove the slip and dress the child in clean clothes. If this cannot be afforded, thoroughly air the

day-clothing by hanging it up during the night. Use clean diapers, and change them often. Never dry a soiled one in the nursery or in the sitting-room, and never use one for a second time without first washing it.

Rule 3.—The child should sleep by itself in a cot or cradle. It should be put to bed at regular hours, and be early taught to go to sleep without being nursed in the arms. Without the advice of a physician, never give it any *spirits, cordials, carminatives, soothing-syrups,* or *sleeping drops. Thousands of children die every year from the use of these poisons.* If the child frets and does not sleep, it is either hungry or ill. If ill, it needs a physician. Never quiet it by candy or cake; they are the common causes of diarrhœa, and of other troubles.

Rule 4.—Give the child plenty of fresh air. In the cool of the morning and evening send it out to the shady sides of broad streets, to the public squares, or to the park. Make frequent excursions on the rivers. Whenever it seems to suffer from the heat, let it drink freely of ice-water. Keep it out of the room in which washing or cooking is going on. It is excessive heat that destroys the lives of young infants.

Rule 5.—Keep your house sweet and clean, cool and well aired. In very hot weather let the windows be open day and night. Do your cooking in the yard, in a shed, in the garret, or in an upper room. Whitewash the walls every spring, and see that the cellar is clear of all rubbish. Let no slops collect to poison the air. Correct all foul smells by pouring carbolic acid or quick-lime into the sinks and privies. The former article can be got from the nearest druggist, who will give the needfuld directions for its use. Make every effort yourself, and urge your neighbors, to keep the gutters of your street or court clean.

Rule 6.—*Breast-Milk is the only Proper Food for Infants.*—If the supply is ample, and the child thrives on it, no other kind of food should be given while the hot weather lasts. If the mother has not enough, she must not wean the child, but give it, besides the breast, goat's or cow's milk, as prepared

under Rule 8. Nurse the child once in two or three hours during the day, and as seldom as possible during the night. Always remove the child from the breast as soon as it has fallen asleep. Avoid giving the breast when you are over-fatigued or overheated.

Rule 7.—If, unfortunately, the child must be brought up by hand, it should be fed on a milk diet alone, and that, warm milk out of a nursing-bottle, as directed under Rule 8. Goat's milk is the best, and next to it, cow's milk. If the child thrives on this diet, *no other kind of food whatever should be given while the hot weather lasts.* At all seasons of the year, but especially in summer, there is no safe substitute for milk to an infant that has not cut its front teeth. *Sago, arrow-root, potatoes, corn-flour, crackers, bread, every patented food, and every article of diet containing starch, can not, and must not be depended on as food for very young infants.* Creeping or walking children must not be allowed to pick up unwholesome food.

Rule 8.—Each bottleful of milk should be sweetened by a small lump of loaf-sugar, or by half a teaspoonful of crushed sugar. If the milk is known to be pure, it may have one-fourth part of hot water added to it; but if it is not known to be pure, no water need be added. When the heat of the weather is great, the milk may be given quite cold. Be sure that the milk is unskimmed; have it as fresh as possible, and brought very early in the day. Before using the pans into which it is to be poured, always scald them with boiling suds. In very hot weather, boil the milk as soon as it comes, and at once put away the vessels holding it in the coolest place in the house—upon ice if it can be afforded, or down a well. Milk carelessly allowed to stand in a warm room soon spoils, and becomes unfit for food.

Rule 9.—If the milk should disagree, a tablespoonful of lime-water may be added to each bottleful. Whenever pure milk can not be got, try the condensed milk, which often answers admirably. It is sold by all the leading druggists and grocers, and may be prepared by adding, without sugar, one

teaspoonful or more, according to the age of the child, to six tablespoonsful of boiling water. Should this disagree, a tablespoonful of arrow-root, of sago, or of corn-starch to the pint of milk may be cautiously tried. If milk in any shape can not be digested, try, for a few days, pure cream diluted with three-fourths or three-fifths of water—returning to the milk as soon as possible.

Rule 10.—The nursing-bottle must be kept perfectly clean; otherwise the milk will turn sour, and the child will be made ill. After each meal it should be emptied, rinsed out, taken apart, and the tube, cork, nipple, and bottle be placed in clean water, or in water to which a little soda has been added. It is a good plan to have two nursing-bottles, and to use them by turns.

Rule 11.—Do not wean the child just before or during the hot weather, nor, as a rule, until after its second summer. If suckling disagrees with the mother, she must not wean the child, but feed it in part, out of a nursing-bottle, on such food as has been directed. However small the supply of breast-milk, provided it agrees with the child, the mother should carefully keep it up against sickness; it alone will often save the life of a child when everything else fails. When the child is over six months old, the mother may save her strength by giving it one or two meals a day of stale bread and milk, which should be pressed through a sieve and put into a nursing-bottle. When from eight months to a year old, it may have also one meal a day of the yolk of a fresh and rare-boiled egg, or one of beef or mutton-broth into which the stale bread has been crumbled. When older than this, it can have a little meat finely minced; but even then milk should be its principal food, and not such food as grown-up people eat.

For the convenience of mothers, the following recipes for special forms of diet are given:

Boiled Flour, or Flour Ball.—Take one quart of good flour, tie it up in a pudding-bag so tightly as to get a firm, solid mass, put it into a pot of boiling water early in the morning,

and let it boil until bedtime. Then take it out and let it dry. In the morning, peel off from the surface and throw away the thin rind of dough, and, with a nutmeg-grater, grate down the dry, hard mass into a powder. Of this from one to three teaspoonsfuls may be used, by first rubbing it into a paste with a little milk, then adding to it a pint of milk, and, finally, by bringing the whole to just the boiling point. It must be given through a nursing-bottle.

An excellent food for children who are costive in their bowels may be made by using bran-meal or unbolted flour instead of the white flour, preparing it as above directed.

Rice-Water.—Wash four tablespoonfuls of rice, put into two quarts of water, which boil down to one quart, and then add sugar and a little nutmeg. This makes a pleasant drink.

A half-pint or a pint of milk added to this, just before taking it from the fire, and allowed to come to a boil, gives a nourishing food suitable for cases of diarrhœa.

Sago, tapioca, barley, or cracked corn can be prepared in the same manner.

Beef-Tea—Take one pound of juicy, lean beef—say a piece off of the shoulder or the round—and mince it up with a sharp knife on a board or a mincing-block. Then put it with its juice into an *earthen* vessel containing a pint of tepid water, and let it stand for two hours. Strain off the liquid through a clean cloth, squeezing well the meat, and add a little salt. Place the whole of the juice thus obtained over the fire, but remove it as soon as it becomes browned. Never let it boil; otherwise most of the nutritious matter of the beef will be thrown down as a sediment. Prepared in this way, the whole nourishment of the beef is retained in the tea, making a pleasant and palatable food. A little pepper or allspice may be added if preferred.

Mutton-tea may be prepared in the same way. It makes an agreeable change when the patient has become tired of beef-tea.

Raw Beef for Children.—Take half a pound of juicy beef, free from any fat; mince it up finely; then rub it up into a

smooth pulp either in a mortar or with an ordinary potato-masher. Spread a little out upon a plate and sprinkle over it some salt, or some sugar, if the child prefers it. Give it with a teaspoon or upon a buttered slice of stale bread. It makes an excellent food for children with dysentery.

At a meeting of the Obstetrical Society of Philadelphia, held April 5, 1873, the undersigned committee was appointed "to consider the Causes and the Prevention of Infant Mortality during the Summer Months." The foregoing rules, drawn up by this Committee, were revised and adopted by the Society at a meeting held May 1, 1873, and ordered to be published.

Committee.—Dr. Wm. Goodell, Chairman, Dr. J. Forsyth Meigs, Dr. John L. Ludlow, Dr. Albert H. Smith, Dr. John S. Parry, Dr. Wm. F. Jenks.—*Phil. Med. Times.*

ART. II.—TRANSFUSION OF MILK IN CHOLERA. By EDWARD M. HODDER, M. D., Toronto, Canada. [Extract from a Letter to the Editor of the London "Practitioner"].

Previously to the last advent of cholera, twelve or fourteen years ago, I suggested to my friend and colleague, Dr. James Bovell, the propriety and probable success of transfusion of blood. He at once met me with the objection, that the supply would most likely fail; inasmuch as few persons would like to part with their blood during an epidemic of the kind; and, if they did, we could not be sure that the blood itself was not diseased. This appeared to knock my scheme on the head at once; but I began to reflect, and to ask myself, What is the nearest analogue of the blood? and milk came to my mind.

The next question to be decided was, whether milk had ever been injected into the veins of man or animals, and what was the result? I found that Donné had injected it into the veins of dogs, rabbits, and birds; and that it did not kill them! but, on the contrary, he, with Wagner, Gulliver, and others, were

of the opinion that the white corpuscles of the milk were capable of being transformed into red blood-corpuscles. I then decided on the transfusion of milk into the human veins, should cholera pay us another visit.

At length the true Asiatic disease made its appearance, and found the city fathers as unprepared for it, as if such a disease had never existed. Dr. Bovell and myself volunteered our services, and an old shed on the hospital grounds (used as a small-pox ward) was made the temporary cholera hospital. The first two or three cases were moribund when brought in; but the next day about noon, (the hour at which the medical officers of the hospital made their rounds,) a stout-built farmer, who had come to Toronto on business, was admitted. He was in a state of collapse—cold, pulseless, blue, and shriveled; the secretion of the urine was arrested; there was vomiting and purging of rice-water fluid; in fact, he seemed dying. I immediately got everything ready, and then sent a message requesting consultation with any of the medical officers who might be in the hospital; when four gentlemen came, and I asked them the following questions: "Do you consider this a genuine case of epidemic Asiatic cholera?" "Certainly, and a very marked one." "Do you think anything can be done to save him?" "Nothing; he is dying." "Would any medical treatment be likely to be of any use?" "None." "Then he must die?" "Yes." "Then, gentlemen," I said, "I am about to try the experiment of transfusing milk into his veins." "If you do, you will kill him," was the reply. Thereupon I invited them to be present at the operation; but three out of the four left the building; the fourth remained, but would not assist. Everything being ready, I ordered a cow to be driven up to the shed; and while she was being milked into a bowl, (the temperature of which was raised to about 100° F.) through gauze, I opened a vein in the arm and inserted a tube; and then filled my syringe, (also previously warmed,) and injected slowly therewith. No perceptible change, either for better or for worse, took place; so, after waiting two or three minutes, I

again filled the syringe, and injected seven ounces more. The effect was magical; in a few moments the patient expressed himself as feeling better; the vomiting and purging ceased, the pulse returned at the wrist, the surface of the body became warm; in fact, the man rallied, and speedily recovered without a bad symptom.

The next day a woman, an habitual drunkard, was admitted in the same condition as the above-described man. I transfused fourteen ounces of milk in a similar manner, and in a few minutes the vomiting and other symptoms ceased, and she improved; but toward evening collapse came on, when I injected fourteen ounces more milk; and she also recovered, but after secondary fever.

The third case was admitted almost *in articulo mortis;* but he rallied for a time, then collapsed, as the woman did, and died during my absence from the shed. Had I been present, I should have injected more milk into his circulation, and he might have rallied again.

Dr. Bovell and myself then applied to the corporation for a good cow, and a few articles indispensably necessary for the well-being of the patients; these were refused, and we thereupon sent in our resignations.

[It is to be regretted that this most interesting experiment came to such an untimely end; and we join in the wish with which Dr. Hodder concludes his letter, that it may be repeated here on a large scale, should cholera ever visit England again. We scarcely know whether it is necessary to add, even for the information of English readers, that Dr. Hodder is a very distinguished and experienced practitioner, so that his evidence is most valuable and trustworthy. We would suggest, however, that it would probably not be necessary to take the milk direct from the cow; artificial warming would surely answer the purpose.—ED. PRACT.]—*Monitor.*

ART. III.—ON THE COMPARATIVE THERAPEUTICAL VALUE OF SALTS OF PROTOXIDE AND SESQUIOXIDE OF IRON, AND ON A NEW SERIES OF TASTELESS IRON COMBINATIONS. By J. A. CREUSE, Brooklyn, N. Y. [Read at the Second Annual Meeting, and Published in the Annual Report of the Alumni Association of the College of Pharmacy of the city of New York.]

It is not my intention here to treat on the medical properties and uses of ferruginous compounds as a class; this has been done before me by more competent persons. My purpose is only to discuss the relative physiological and chemical properties of the various iron combinations, and describe a new series of tasteless ferruginous compounds.

Iron has been used in medicine, it may be said, from time immemorial. Metallic iron, green copperas, iron rust, carbonate of iron, bole armenia, etc., are mentioned in the oldest authorities on medicine and pharmacy. It seems also, that in former times little importance was attached to the peculiar form in which iron was administered. Some fifty or sixty years ago, however, a decided preference began to be shown for metallic iron, finely comminuted, and for the proto-salts, of iron. It was thought then that the easy solubility of those preparations in the stomach was a great advantage; and that theory gave rise to a number of officinal remedies, like iron by hydrogen, Vallet's mass, proto-iodide of iron, etc., etc., well known to all pharmacists.

But of late years, especially since the discovery of the citro-ammoniacal pyrophosphate of iron, by Robiquet, my old master, salts of sesquioxide of iron have been steadily growing into favor. It has been argued, with reason, that since iron in the human economy is invariably found in the shape of sesqui-salts, such compounds should be preferred to all others whenever iron is indicated. I may add, also, that it is always in the form of sesqui-salts that iron exists in all vegetable and animal substances which compose human food; and that metallic iron or its proto-salts can not be mixed with the simplest aliments without completely decomposing them. Protoxide of iron is as

unyielding as it is unstable; when you have combined it with strong acids, you can go no further with its salts; you can do nothing with them, not even an alum. Sesquioxide of iron, on the contrary, is a perfect Proteus; sometimes a base, sometimes an acid, it is always ready to enter into some combination or other on the slightest provocation.

In a paper published sometime ago, I demonstrated that nearly all the insoluble sesqui-salts of iron could be combined with the alkaline citrates, forming soluble and tasteless compounds, to which I give the name of quadruple citrates.

Since then, further experiments have shown me that other vegetable salts, besides the citrates, also possessed the same property; and that not only the insoluble, but also the soluble sesqui-salts of iron could form similar combinations.

In other words, I may lay down this rule: *All the salts of sesqui-oxide of iron, without exception, soluble or insoluble, form combinations with all the alkaline citrates, tartrates, and oxalates.* Such combinations are invariably green, whatever may be the color of the iron salt; they are all soluble in water, nearly insoluble in alcohol; they are all free from ferruginous taste, all perfectly stable, and miscible with preparations of Peruvian bark without decomposition. In all of them the presence of iron is so disguised as not to be detected by chemical reägents, unless after the addition of strong acids of or sulphureted hydrogen, both of which destroys the combination.

In other papers I have described the soluble compounds obtained in combining the phosphate, hypophosphate, valerianate and arseniate of iron with the alkaline citrates. In this I will merely describe the tasteless combinations of the alkaline citrates with iodide, chloride, sulphate and nitrate of iron.

Tasteless Iodide of Iron.—This is, no doubt, the most important of the whole series both therapeutically and chemically; therapeutically, because iodide of iron is admitted to be the best of all iron combinations; chemically, because all the reäctions happening during its preparation are so remarkable, and so easy to follow with accuracy, as to be likely to give a

key to the real composition of the rest of the series—a result which can hardly be obtained with any of the other similar combinations.

The salt is obtained in the following manner: 126.3 grs. (1 eq.) of iodine are first combined with metallic iron, in the usual way to obtain the proto-iodide of iron; this is filtered, and 63 grs. ($\frac{1}{2}$ eq.) of iodine are dissolved into it. Then, a solution of 201 grs. (1 eq.) of citric acid saturated with a fixed alkali, such as potassa for instance, is added by small portions to the sesqui-iodide of iron. The ferruginous solution, which is at first of a ruby red color and has a strong smell of iodine, becomes lighter by degrees, till, as the last drop of citrate is added, it takes a bright apple-green color, at the same time all smell of iodine, all taste of iron have disappeared; the solution strikes no color on starch-paper, and gives no precipitate with either tannin or ferrocyanide of potassium. It may then be evaporated at a low heat, with gentle stirring to dryness, when it gives a green mass formed of very small acicular crystals, looking somewhat like cauliflowers. It is tasteless, perfectly stable, unless exposed to direct sunlight, and may be exhibited in the shape of syrup, elixir, solution, tincture, pills, etc. The dose of it need not be more than one-half of that of the proto-iodide of iron, as it is absorbed much more readily.

Chemically, this iodide of iron seems to be a combination in which sesqui-iodide of iron plays the part of an acid and the alkaline citrate that of a base; but the subject requires further investigations before it can be decided with complete certitude.

The other alkaline citrates may be used instead of citrate of potassa; similar combinations may also be obtained with the alkaline tartrates, oxalates, and malates, but none are so tasteless, and especially none so *stable* as the one just mentioned.

I must add a few words on this subject, which is a most important one; for the same remarks may be applied to all the other analogous iron combinations, pyrophosphate included. On reading the above process, some may think that, after all,

the product is only a mixture of citrate of iron, iodide, and iodate of potassium. But, aside from the fact that the different ingredients are not in proportion to form such combinations, chemical tests show that such is not the case. Citrate of iron, for instance, is of a ruby-red color and turns immediately ink-black on the addition of tannin, while tasteless iodide of iron is bright green, and is not colored black by tannin, but only turned to a light purple hue after some time. Iodide of potassium dissolves iodine freely; the new salt dissolves it but sparingly, unless when in a concentrated solution. Iodide of potassium is colored red by solutions of morphia; no coloration is produced by them in solutions of the new salt. This last reäction is important, as iodate of potassium is deemed poisonous by some physicians.

Tasteless Chloride of Iron.—Sesqui-chloride of iron, the salt which enters into the preparation generally known as tincture of muriate of iron, has the property of forming combinations precisely similar to those of the sesqui-iodide. If an alkaline citrate be added to a solution of sesqui-chloride of iron, in the proportion of two equivalents of the former to each three equivalents of chlorine, a new salt will be obtained of a green color, quite tasteless, and miscible with vegetable preparations such as infusions of bark, quassia, etc., without change or discoloration.

This tasteless muriate of iron may be dissolved in diluted alcohol in the proportion required by the Pharmacopœia of the United States; it forms, then, a tincture of muriate of iron, which is as superier to the old one as a civilized man is above a barbarian. Its effects, I know, from experience, are fully equal to those of the officinal tincture.

I can not give the exact weight of citric acid required for a given quantity of the officinal tincture of muriate of iron, on account of the great variation in the strength and acidity of that preparation; but, on an average, 120 to 140 grains of citric acid saturated with either soda or ammonia will answer for one fluid ounce of the tincture. This is to be added to the iron so-

lution before the alcohol; and the alcoholic strength of the tincture, when finished, must not be more than 30 or 40 per cent., instead of 70 per cent. as usual.

The sesqui-sulphate and the sesqui-nitrate of iron form also combinations precisely like those described above, but present no special interest to be entitled to more than a simple mention.

All these combinations, however, lack the property of coägulating the blood, and for that reason can not be used as styptics in cases of hæmorrhagia, etc. The old officinal preparations will have to be retained for external use, the only thing they are fit for in a civilized community.

NOTE.—The tasteless iodide of iron has been patented, but with no intention of interfering with any druggist who wishes to make it himself for his own dispensing.—EX.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—NOTES ON PEPSIN.

In the "Missouri Dental Journal" the following remarks by C. D. Chase have been published. We give them a place in our columns without in any way committing ourselves to their accuracy, but only as a matter of interest to our readers. Nevertheless, if the estimate set by Mr. Chase upon the four qualities of pepsin he has examined be worth anything, it is worth a great deal.

The French process invented by Boudault for the manufacture of pepsin, says Mr. Chase, is as follows: "The rennet-bags of sheep, quite fresh, are opened, turned inside out, and washed with a gentle stream of water; the mucous membrane is then scraped off, bruised in a mortar so as to rupture the cells, and digested for twelve hours in pure water. The infusion thus obtained is treated with acetate of lead, and the precipitate, con-

sisting of pepsin (impure) and oxide of lead, is mixed with water and treated with sulphureted hydrogen, which throws down the lead as sulphuret of lead, leaving the pepsin in solution. The liquid, having been filtered, is carefully evaporated at or below 100° F. to a syrupy consistence; after which a sufficient perfectly dry starch is added to bring it to the state of a dry powder. One gramme of this powder will, in twelve hours, affect the solution of six grammes boiled white of egg, or chopped meat, in one-half ounce of water at 100° F.

"Mr. E. Sheffer, of Louisville, Ky., prepares different grades or strengths of pepsin by the following process, which is original with himself. The mucous membranes of carefully cleansed hogs' stomachs are finely chopped, bruised, and macerated for several days in water acidulated with muriatic acid. The mixture is well stirred at frequent intervals during the process of maceration, and finally allowed to stand a few hours for the mucus to settle, when it is strained. To the liquid is added an equal volume of saturated solution of sodium chloride (common salt), and the whole thoroughly mixed. After several hours, the pepsin, which has risen to the surface of the liquid, is removed and pressed strongly to free it as much as possible from adhering salt solution. The resulting cakes of crude pepsin are rubbed in a fine powder with milk-sugar, the proportion of the latter being regulated by the strength desired for the finished preparation.

"Mr. Sheffer's *Saccharated Pepsin* is made by reducing the crude pepsin with milk-sugar to such strength that one part of the finished preparation will dissolve in six hours at 100° F. twelve parts coägulated albumen. The crude pepsin may be further purified by redissolving it in acidulated water, and again precipitating with salt-solution; the precipitate collected and pressed as before, and after having become thoroughly air-dry, is quickly immersed in water, whereby the crystals of salt, which have collected on the surface of the cakes, are removed.

"The novelty of Mr. Sheffer's process is the employment of common salt as the precipitant."

Mr. Chase then gives the following as the results of experiments on four different kinds of pepsin:

"The results show the relative strength or digestive power, together with the manufacturer's name, and jobber's price per ounce, of the different samples examined.

Manufacturer.	Rel. Strength.	Price per oz.
Pepsin, "Pure," Tilden & Co., New York.....	10	$2 00
Pepsin, Boudault, Paris.....	15	1 75
American Pulverized Pepsin, J. S. Hawley, M. D.....	15	1 25
Saccharated Pepsin, E. Sheffer, Louisville, Ky...	35	1 25

"The above shows 'Sheffer's Saccharated Pepsin' to be three and a half times the real value of 'Tilden's Pepsin, Pure,' and yet nearly double the price is asked for the latter."

We have had no experience with the pepsin prepared by Dr. Hawley, or Tilden & Co., and can not therefore say which is the better; and while it is for the interest of the Profession to encourage the manufacturer that produces the best article of pepsin, the above remarks seem a little too partial.—Ed.—*Physician's Monitor.*

Art. II.—On Sutures, and the Treatment of Incised Wounds. By J. C. Ogilvie Will, M. D.

Sutures are undoubtedly the best means we possess for maintaining the edges of cut parts in apposition. Unfortunately their employment is attended by certain disadvantages; such as the irritation, giving rise to suppuration, when silk is the substance of which they are composed; the danger, during their removal, of tearing apart loosely united surfaces; and the pain experienced by the patient when they are constituted of metallic bodies. Another grave objection to the use of sutures is, the unsightly marks—consequences of suppuration—which remain at the points where they had been inserted. These cicatrices are of course chiefly objectionable in parts exposed to view, as in wounds of the face, etc. The object of the present

paper is to draw attention to sutures formed of a substance which can be employed without fear of the foregoing undesirable effects presenting themselves. This substance is catgut, which Professor Lister brought into notice some years ago for this purpose, but which he has since discarded, though he still retains it for ligatures. Regarding its use for the latter purpose, I cannot speak personally, as I have always found acupressure answer every purpose; but with regard to the former I can speak most emphatically, for during the last two years in every wound where I have had reason to expect early union—and it is only in such cases that I advocate its use—I have invariably employed catgut sutures, and their employment has been attended by the happiest results. In proof, I may cite a few cases.

1. A child came against a pane of glass in a window, broke it, and in so doing almost severed the fleshy part of his nose from the cartilages. The surfaces of the wound, having been washed and exposed to the air for a few minutes, were brought into apposition, three catgut sutures were inserted, and cold-water dressing applied. In three days the sutures were removed, and a day or two after hardly a trace of the injury remained. The sutures did not give rise to the slightest irritation.

2. An injury causing a somewhat similar but much more severe lesion, the cartilage of the septum being fairly divided, occurred to an old woman. In this case the edges of the wound were very jagged. The same treatment was adopted, with like results.

3. Case of excision of the mamma. Eight sutures; one vessel acupressed; pin removed seven hours after; immediate union. The sutures, not giving rise to the slightest inflammation, were allowed to remain till the thirteenth day after the operation, when they (or rather what remained of them) were removed. Shortly after, the points where the sutures had been inserted could not be discerned.

4. Another very striking case was that of a young child who was brought to me with the point of his middle finger hanging merely by a thread, like a piece of skin, the whole of the other

tissues, including the bone, having been divided. After carefully cleansing the wounded surfaces, and allowing them to become glazed, I brought them into accurate apposition, and inserted two catgut sutures, remarking at the time to the boy's mother, that I had little hope of a favorable result, and that I would probably have to remove part of the finger, but that I had given him a chance. Fortunately I was not obliged to resort to such a proceeding, as the parts healed kindly, and on the sixth day I removed the sutures. On that day only one small point remained unhealed.

5. Amputation of the third finger, with removal of part of the metacarpal bone, in the case of a boy. Three sutures; wound healed without the slightest suppuration. The sutures were removed on the seventh day, when the child was sent home perfectly well.

6. Same operation as last on a man. Three sutures; one vessel acupressed; pin removed four hours after. Œdema and slight suppuration, notwithstanding which the sutures were allowed to remain; and on the twelfth day the wound had entirely healed.

This case showed that catgut may be employed with advantage in a different class of cases from that in which I have advocated its use, as, unlike wire, which will cut its way out, and silk, which will resist, catgut will stretch to a certain extent. I might quote many other cases of wounds in other parts, but must content myself with the above mentioned.

If surgeons will only give catgut sutures a fair trial, at the same time not disregarding other essential precautions to which I shall presently refer, I feel assured that they will have every reason to feel satisfied with the results following their use. The other points to be attended to, in the treatment of incised wounds, are that there be no foreign bodies in the wound—such as blood, dirt, or "dead pieces of meat," as Sir James Simpson quaintly termed ligatured vessels—and that its surfaces be exposed to the air, till they have taken on a glazed appearance. This last indication is not, I am aware, in accordance with the

views entertained by many surgeons at the present moment; but experience here has proved that union takes place more readily when air has been freely admitted, than when wounds have been hurriedly closed. It is probable that if there are spores in the air of other places, Aberdeen has its due share of them, but they do not exert the baneful influence ascribed to them in some other cities; and the fact that union by the first intention has been obtained here in so many instances of amputation, excision, etc., after they have been exposed to free currents of air, for periods varying in duration from ten to thirty minutes, seems to me to be a proof that the germ-theory of putrefaction in wounds is hardly a tenable one. The only explanation that could possibly be given by the supporters of that theory would be that the air in this city is pure and free from germs; but to explain the why and wherefore of this exemption would be a still more difficult matter. Even if this could be done, it would not be sufficient; for in Edinburgh, where germs are supposed to exist in their highest degree of development, I saw more than one case of wounds after excision of tumors unite *without one drop of pus*—after Sir James Simpson, not content with the ordinary access of air, used a *bellows* to ensure every part of the raw surfaces being, so to speak, flooded with it. Further, regarding dressings, I find the less the better; when any are employed, a simple strip of wet lint suffices. I have not thought it necessary to enter upon the necessity of obtaining accurate coäptation of the edges of cut parts, as this point is so universally recognized as a *sine qua non* in the treatment of incised wounds that even mention of it seems superfluous. The treatment I have indicated is applicable to all incised wounds; excepting that I would only counsel the use of catgut sutures in those of the slighter order, or in those where, from the nature of the case, there is reason to expect union by the first intention.

I may add that, as I have received several applications from medical men requesting me to obtain for them a supply of catgut, what I have employed has been prepared by Messrs.

Young & Son, North-bridge, Edinburgh, Scotland.—*Exchange.*

Oxide of Zinc as a Remedy for the Diarrhœa of Infancy and Childhood.—Dr. Brakenridge states that, during the last three years, he has carefully tried various methods of treatment in many hundreds of cases of diarrhœa of infancy and childhood, at the dispensary of the Edinburgh Royal Hospital for sick children. The considerations which have led him to adopt this remedy may be briefly stated as follows: First, the disease depends chiefly on a weak and too impressionable state of the nerve-centres presiding over alimentary secretion; secondly, it is correlated to convulsions and other spasmodic diseases; thirdly, it is accompanied by hyperæmia of the secreting surfaces of the alimentary canal. To meet these indications, we must have a remedy which is, first, tonic; secondly, anti-spasmodic; thirdly, astringent. In the oxide of zinc we have these three properties happily combined. First, as a tonic, it has been said to be to the nervous system what iron is to the blood. Its usefulness in the analogous condition of profuse sweating is well known. Secondly, as an antispasmodic, it is deservedly held in high estimation, and has been found frequently to effect a cure in convulsions and other spasmodic diseases. It may, therefore, be depended upon to prevent the occurrence of those nervous diseases, which stand correlated to diarrhœa, as the alternative results of such irritations as dentition, worms, etc., and which may supervene on the rude stoppage of diarrhœa by astringents. Thirdly, its astringent properties are well known. *Medical Times and Gazette.*

Coffee and Sulphate of Quinia.—M. Briquet considers the common practice of administering quinia in coffee open to much objection. He alleges that the tannin in the coffee coalesces with the quinia, forming a tasteless and insoluble and almost inert salt—the tannate of quinia—from which the stomach has as much difficulty in extracting quinia as from powdered bark. It is, he thinks, one of the worst preparations of quinia.—*Brit. Med. Journal.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—ASIATIC CHOLERA: From the "Pathologie Interne" of S. JACCOUD, Paris, 1872. Translated by JOHN A. OCTERLONY, M. D., Prof. Materia Medica, Therapeutics and Clinical Medicine in the Louisville Medical College.

The birth-place of the cholera-poison is Hindostan; it is reproduced by the organism which it infects, and is transmissible from man to man with quasi pandemic power.

Cholera, then, is *contagious* in the exact way which I have already defined;* this sense alone is practical; like a connecting wire, it runs through all the etiological problems, whose obscurity is in a great measure owing to a confusion of terms.

The telluric conditions which produce the poison in the original places from which it sprang are unknown; the regions where it prevails endemically, have the external character of swamps; and the surface abounds in animal and vegetable matters in a state of decomposition. The injurious action of the emanations resulting from them is greatly favored by the rains (Murray), even to such a degree that one or two days heavy rains, following a protracted drought, suffice to give the disease a fresh start when it had fallen to a minimum, or was entirely extinct; but a complete knowledge of the nature of the poison and the causes of its endemic oscillations is still lacking. In the districts visited every year by hundreds of thousands of Mohamedan pilgrims to perform their religious rites at Hurdwahr, at the junction of the Ganges and Djumna, the most powerful auxiliary causes are crowding, filth and excesses of all kinds, and especially when these concur during the most favorable

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* This definition occurs in the author's article on Dysentery, Pathologie Interne, vol. ii., page 330—viz., a contagious disease is not one which, according to strict etymology, is transmitted by "direct contact," but one transmitted to a healthy person by a peculiar product emanating from one affected with the disease.

season. But these causes do not generate the poison; that belongs to the soil, and is contained in it. This fact is proved by the existence of endemic cholera in regions where there are no places to which pilgrims resort. On the other hand, it is certain that the return of the latter to their homes after the close of their religious festivals, and accessorily, the movements and transportation of troops, are the only causes of the exportation of cholera from beyond its original domain. Successive years present great differences in regard to the migration of cholera, and the reason is, that the intensity of the endemic at the time of departure of the travelers is subject to very great variations.

Cholera infection which manifests itself sometimes only a few hours after exposure has more frequently a period of incubation of three to five days; this period of latency permits the individual to move about from place to place, to travel, and thus to carry still further the poison which the confirmed disease will reproduce in him.

On the other hand, cholera infection does not always from the first take on the grave form which confines the patient to his bed; it may express itself by symptoms comparatively light, and which do not interrupt his ordinary avocations or prevent the sufferer from moving about from one place to another.

These two important circumstances explain the exportation of the disease by a caravan whose sanitary condition seemed to be perfectly good at the time of its departure, and the amount of travel that infected persons can do before the disease at last culminates and prevents their further progress..

But all these patients are so many new sources of infection to the caravan supposed to have been perfectly healthy at the time of starting; in leaving them behind in the various healthy places the caravan disseminates cholera, and all the time carries the elements of the disease along with it to the respective places of destination.

The poison is reproduced by persons in some stage or form of infection; from choleratic diarrhœa, which does not arrest the movements of the individual to cholera asphyxia, which kills

almost at once. The poison is contained chiefly, if not exclusively, in the dejections, and consequently in anything contaminated by them. This fact, the knowledge of which is principally due to Pettenkofer and Delbrück, has been demonstrated by experiments with artificial infection, by the frequently successful use of disinfectants as prophylactic means (Traunstein, Brauser, Budd, etc.,) by the noxious effects of latrines receiving the dejections of cholera sick (observations of Pettenkofer, Budd, Delbrück, of Halle, Acland of Oxford, etc.), by the appearance of cholera in a previously healthy town immediately after the transit of a patient who had only visited a house in order to make use of the latrine (observations of Ratisbonne and many others); lastly, by the absolutely incontestable propagation of infection by means of the linen previously used by cholera patients.

The greater mortality among the laundresses and workers of matresses had been observed long before the reason (just mentioned) was known.

Such is the cholerigenic poison; it is probably already in an active state in the recent dejections, but its activity is no less in those which are dry and of older date; finally, its greatest power and diffusibility are acquired by admixture of cholera discharges with ordinary fæcal matter. A kind of fermentation takes place throughout the whole mass, which becomes a veritable focus of infection (Pettenkofer).

The agencies by which the poison is transmitted are numerous. First among them are the cholera sick, not those affected with the severe form of the disease, they can no longer move about, but those having a specific diarrhœa, contracted in a locality where cholera prevails, and who then visit a place or places previous healthy; *the corpses* of those who have died of cholera, (an indirect proof of this mode of transmission is found in the exceptional mortality of persons whose work brings them in contact with the dead bodies); and lastly, *the effects* and all articles of bedding used by cholera patients.

These various modes of importation enable us to understand how the first cases arise in a community until then perfectly

healthy; but how do isolated cases, effects of a direct transmission, give rise to an epidemic? Let us examine. The further diffusion may in part be caused by the contact of persons with the sick; but the true mode of epidemic infection is the *formation of foci* by the mingling of cholera discharges with the contents of privy pits. The number of these *foci* is in proportion to the number of isolated cases at the onset of the epidemic and their power, which increases in direct ratio with their number, varies according to the construction of the pits, the possibility or impossibility of filtration, and according to the system of sewerage, etc., etc. The effects of these *foci* extend to one or more quarters, or even a whole city, and as long as the power of these *foci* is not destroyed, a city has cholera, just as a vessel with cholera or yellow fever patients on board is said to have these diseases.

The formation of foci is a fact of primary importance; when the soil of a locality is once infected in this way it is no longer necessary to have been exposed to the influence of a cholera patient or his dejections, in order to contract the disease, it is sufficient to be in a condition of receptivity for the noxious telluric emanations; the thread of communication or propagation from man to man is broken; and before the celebrated researches and beautiful results of Pettenkofer the epidemiology of cholera was not a little obscured by ignorance or forgetfulness of this distinction.

Epidemic infection having been first established by importation of cases of cholera, the changes it effects in privy pits and other depressions in the surface become the chief origin of its activity; but the poison may also become diffused in the *water of springs and wells*, and may by its contaminating presence alter and make it noxious. (The observations of Simon, Ebbers, Snow, Ballot, Radcliffe, etc.)

It is evident that the air (excepting cases of infection from drinking water) is the essential vehicle of the poison, but the *diffusibility* of this latter in the atmosphere is quite limited,

and represents only a secondary element in the production of an epidemic.

The avenues by which the *cholera poison is absorbed* and gains entrance to the system, are the *respiratory tract*, and secondarily, the *digestive tract*, but there is no proof that the skin ever is a means of contamination.

The facts which I intend to set forth explain :

1*st. The General Progress of Cholera Epidemics.*—The progress of these epidemics seems to be influenced only by the frequency and rapidity with which intercourse between men occur; atmospheric currents and conditions exert no modifying influence; cholera epidemics do not spread in any determinate and invariable direction; but they do travel in the course of caravans, the transport of military forces, and vessels. The first outbreak of an epidemic on an island always occurs in a seaport, never in the interior. The progress of the epidemic is never more rapid than that of travellers from an infected place. It advances with a speed in exact proportion to the means of communication. If during the interval between two epidemics, in two places, the means of communication between these said places remain the same, the rate of progress of the disease will occupy the same time in the second as in the first; but if, on the contrary, the rate of communication have changed, the rapidity with which the disease is imported will be changed in a proportionate degree. The disease never traverses either deserts or inaccessible mountains.

2*d. The efficacy of isolation*, either by complete segregation of the cholera sick (and not *imaginary* separation, as is the practice in the Paris Hospital), or by isolation of healthy localities by means of rigorous quarantine.

3*d. The increased mortality* among persons who come in immediate contact with the cholera sick. An epidemic of cholera does not invade every locality contaminated by the arrival of cholera patients. The severity and diffusion of epidemic cholera is very far from being always and everywhere the same. This part of the subject is rather obscure, and consti-

tutes a question one must be careful not to confound with either that of transmissibility from man to man, or the formation of foci. However, on this point also, Pettenkofer has enriched science with most interesting observations, on which he has founded a theory by which, if not all, at least a very large number of the known facts are explained. I can not expound this theory in all its details, and must content myself with an account of the following fundamental principles:

In an infected locality to which cholera has been imported, the spreading of the epidemic depends both in fact and degree on the one hand upon *the physical constitution of the soil*, and on the other hand upon the *level of the subsoil water*. In regard to the former, the important point is not the geological constitution of the soil as a whole, but the character of the superficial strata as to porosity and permeability; a region presenting these peculiar features is very favorable to the diffusion of the cholera poison, even if the deeper strata should be composed of impermeable rock; hence, an alluvial, argillaceous, or calcareous soil, and above all, a soil of magnesian limestone is most dangerous. The same geological characteristics may thus be elements of safety or of danger, according to their relations to adjoining strata; the calcareous jura-soil covered by brown freestone and sand, or clay which retains the moisture, is not preservative; but if the soil *en masse* be composed of limestone so as to be uncovered and to form the surface, it is not less salubrious, from this point of view, than the granite, primitive or transition formations. I repeat, then, the important point is not the *geological* but the *physical* composition of the soil. It is the physical constitution, as to compactness or porosity, of the superficial strata on which the dwellings-houses are built, upon which depends the diffusion of the toxic elements produced by cholera discharges and their mixture with the contents of the "pits."

The noxious influence of humidity of the soil was pointed out long ago, but this general and rather indefinite statement is insufficient to explain the topographical differences between successive epidemics. Pettenkofer has shown by direct obser-

vations, first in Bavaria, and afterward repeated in many other countries, that *the level of the subsoil water* is not less in importance than the physical constitution of the soil. When this level is very high, the various strata of the earth impregnated with organic matters, are submerged, and noxious emanations are either nil or at a minimum; but if this state of things is followed by a notable fall of the level of subsoil water, and that at a moment when it contains this poison, the reproduction and diffusion of the latter reaches a maximum in the contaminated strata from which the water has just drained off. This point of the theory implies a high level of subsoil water before the outbreak of the epidemic, and a considerable fall at the moment when it breaks out. The study of a good many local epidemics has fully justified this interpretation, but, in truth, there are also conflicting observations, according to which the rise and fall in the subsoil water and the oscillation of the epidemic have not been in harmony with this doctrine. Nevertheless, the doctrine is an important advance, because it has introduced an "element of variation" in the genesis of epidemics, by which alone we are enabled to understand the differences in receptivity manifested at different times by the same locality. For it is well known that regions, which in spite of the occurrence in them of a few sporadic cases were spared in one epidemic, have been devastated by a subsequent epidemic; but these facts as to variations in the same place can not apply to the regions in whose physical condition there is a *fixed etiological element*, and the theory of the change in the level of subsoil water is the only one which can call positive observations and facts to its support.

The sum of the foregoing pages is this:

Absorption of the poison is the sole cause of cholera; transmission of the poison by a cholera patient (or by articles containing it) is the sole cause of propagation of the disease from one place to another. But the production of an epidemic in a locality infected by importation is governed by certain auxiliary

causes, among which telluric conditions, fixed and variable, hold the first place.

There are other auxiliary causes, but they are only of comparatively small importance.

The situation of a place on and at the base of an inclined surface tends to increase the severity and promote the spreading of an epidemic; this fact was demonstrated by Creutzer in 1855, in regard to one of the suburbs of Vienna.

Altitude has no causative influence "per se"; if very high altitudes abate or entirely arrest an epidemic, it is because they restrict or entirely prevent human intercourse. *Hot and damp seasons* can hardly be classed as auxiliary causes; for though some facts go to prove the contrary, others are not lacking to demonstrate that cholera of great severity may extend in the midst of winter in the most northerly regions. Certain *hygienic* conditions which always exert a decided influence upon health are auxiliary causes also of cholera. *Crowding*, want of cleanliness in dwellings, and in the streets, and a neglected condition of privy-pits and water-closets are among these, and are the most important.

The *susceptibility* to cholera is very general, though, of course, great individual differences exist in regard to this as well as to other contagious diseases; neither age, sex, occupation, or constitutional vigor afford any protection. During the prevalence of an epidemic the inhabitants may be classed as follows, according to their susceptibility to the disease: In some there is no change in point of health, and these are not at all susceptible to the cholera poison; in a second class, there is a limited susceptibility, which manifests itself by mild symptoms of cholera poisoning; the third class includes all persons with a strong predisposition who fall victims to the fully developed disease.

It is possible, and even probable, that the "organic receptivity" of a person is not the only element which goes to make up this "individual susceptibility," and that the dose and quality (concentration) of the poison have also a certain influence; but on this point our ignorance is absolute and entire. There is no

doubt, however, that certain circumstances intensify individual susceptibility; irregularity of diet, unwholesome food, fatigue, and excesses of all kinds; immoderate use of emetics and purgative medicines and exposure to cold exercise injurious effects which have, over and over again, been observed and confirmed.

MORBID ANATOMY.

Numerous lesions have been observed in cholera; some of these are invariably present, and therefore characteristic of the the disease; while others are inconstant, present in some cases, absent in others, and therefore having no specific value.

The constant lesions occupy the small intestine and that part of the lymphatic system belonging to it; they differ in degree according to the stage of the disease at which death ensues, and attain the most complete development in cases that succumb at the close of the period of asphyxia. In these cases there often occurs after death a *notable elevation of temperature;* and continuing several hours, one may observe *muscular contractions* even strong enough to change the position of the limbs; *rigor mortis* is always very marked, and *lividity*, already present during life, remains unchanged after death.

The subcutaneous connective tissue, the muscles, and viscera are remarkably *dry;* and the muscles have, besides, a peculiar sombre color, which is due to physical changes in *the blood;* the latter is thick, of black color like mulberry juice; if there are clots, they are soft and black; the right side of the heart and the veins are gorged with a black fluid, and the arterial system is empty. The large intestine presents on its peritoneal surface the ordinary color and appearance, while the small intestine is of a roseate or lively red color; the intestinal cavity is filled with a liquid like rice-water, and similar in every respect to that which was voided during life; the quantity of this liquid is in inverse ratio to the number and magnitude of the evacuations, and it is greatest in those cases which have been incorrectly called *cholera sicca* or dry cholera. The intestinal walls are swollen and softened by an œdematous infiltration. In point of vascularity, the parts may present two oppo-

site states. The mucous membrane is often the seat of hyperæmia, which decreases from the iliocecal valve toward the duodenum; the vessels are turgid, sometimes there are even ecchymoses and hæmorrhagic extravasations. In other cases the mucous membrane is pale, and there is no trace of vascular fullness; this is probably a post-mortem change for the transudation of fluid, demonstrated by the contents of the intestine, necessarily implies a preceding hyperæmia.

The epithelium and glands are the *tissues* in which the characteristic lesions of cholera are found, and it is especially the *epithelium of the villi* which is involved; this is completely separated in some places, and in others it is simply loosened and raised up by a small serous effusion. The epithelium of other parts of the intestine may also be altered, but it is always in a less degree than that of the villi. It is important to note that these little bodies are organs of absorption, and not secretory or eliminating organs; hence we can not view the epithelial lesion as the cause of the transudation. On the contrary, it is an effect of the latter, or rather they are both simultaneous effects produced by the special irritative action of cholera poison.

Morbid changes in the epithelium are very frequently observed, nevertheless they are not such invariable phenomena as serous transudation and glandular lesions; this point has been definitely settled by the anatomical researches of Rudnew.

The glandular lesions occupy the solitary glands and the glands of Peyer. All these are swollen and raised above the mucous surface in the form of globular projections; they are besides gorged with fluid, and microscopical examination shows a cellular or parenchymatous infiltration, without a trace of any free exudation (Rudnew). The duodenum is free from change, and in the jejunum it is barely to be discerned; the ileum is the principal seat of morbid action, and the instances of the latter become more and more marked toward the ilio coecal valve. These lesions closely resemble those of abdominal typhus, both in their seat and microscopic character. Another point of resemblance is furnished by the manner in which the

infiltration is deposited in the glands of Peyer; all the follicles of a gland are not involved, but only some, and a varying number, and the others may be perfectly normal. Distended follicles of Peyers' patches often burst, causing the surface to assume a rough and cribriform appearance altogether resembling the "reticulated" appearance of these patches in typhoid fever. Rudnew has demonstrated by a new method of preparation that the cellular infiltration occupies not only the glands above mentioned, but also the adenoid tissue of the mucous membrane and villi, hence it will be seen that the morbid process invades the origin of the lymphatic system of the intestine. The mesenteric glands have also, without exception, been found to be the seat of an identical infiltration; but the glands of Brunner and of Lieberkühn are unaffected. According to the learned St. Petersburg Professor, the changes in the gastric mucous membrane are equally constant, and consist of a catarrhal and parenchymatous inflammation. This hyperplastic infiltration of the intestinal glands represents the highest degree in the morbid process, and characterizes the stage of intoxication; the later anatomical changes belong to the period of repair; they are observed only in those who have survived (a longer or shorter time) the algid stage.

In summing up the above facts we conclude: *That the cholera poison expends itself especially upon the gastro-intestinal mucous membrane, and that it manifests its presence by phenomena of irritation, with a hyperplastic infiltration of the follicular elements of the glands, catarrhal desquamation of epithelium, and exosmotic transudation of the watery constituents of the blood.*

The other lesions observed in cholera, and the symptoms arising from them, are not immediate effects of the poison, but necessary consequences of the primary lesions, and in a great measure of a mechanical origin. The thickening of the blood is one of these, and is the first link in a chain whose segments are very closely connected; and by which a pathogenic subordination is established, which we can very easily understand.

The liver presents no noteworthy change; the gall bladder is ordinarily full of bile. *The spleen* may be large or small, simply according to the quantity of blood it contains; but whatever its volume, according to Rudnew, the "Corpora Malpighi" are always found in a state of marked hyperplasia. *The kidneys* are often in a state of venous congestion, resulting from thickening of the blood and impeded circulation, but the traces of parenchymatous nephritis are often observed at an early period (Virchow, Reinhard).

The mucous membrane of the urinary passages is covered with thickened mucus and masses of epithelium; *the bladder* is empty and contracted. *The lungs* are pale, dry and free from œdema or hypostatic congestion; the alveolar epithelium (studied by Rudnew, with the aid of a solution of nitrate of silver) is adherent and intact.

When the patient succumbs during *the period of repair*, the lesions are of a very different character. The post-mortem rise in temperature is most frequently wanting; "rigor mortis" is less marked, and the muscles and viscera have no longer the peculiar dryness of the preceding stage; instead of it *the lungs* are œdematous and congested, there is often lobar or lobular inflammation, and even extravasation of blood; *the meninges* are intensely injected; *the encephalon* is hyperæmic, and sometimes the seat of hæmorrhages which have a certain predilection for the pons varolii; and the ventricles often contain a notable quantity of fluid.

The small intestine has no longer a rosy color, and the contents are tinged with bile; as early as the third day the swelling of the glands may have disappeared, and an abundant deposit of pigment may be the only trace of the former lesion.

In other cases, the cellular exsudate, instead of being resorbed undergoes necrobiosis, and is then eliminated, but this elimination is attended with loss of substance, and ulceration; then, as in all interstitial exsudates in mucous and submucous tissues, there is a veritable diphtheritic process. This *secondary diphtheria* is not always confined to the small intestine; it

occurs in the colon, in the gall bladder, in the urinary bladder, and in the vagina. In a large number of cases the intestinal epithelium has already become replaced. The kidneys are either simply congested or they have all the characteristics of the first stage of parenchymatous nephritis, with cylindrical casts in the tubuli, and commencing fatty degeneration of the epithelial cells.

The blood during the period of intoxication is thicker than in any other disease. The normal proportion of water being represented by 100, in this disease it falls to 13 or even 10; the usual specific gravity of the serum of the blood is 1030 to 1040, but in cholera it may rise to 1058 (Dundas, Thompson). The greatest condensation of the blood occurs from 30 to 36 hours from the beginning of the attack. In consequence of this physical change in the blood the exchange of gases in the lungs becomes impeded or is entirely arrested; the blood is no longer oxygenated, its constitution is altered by an accumulation of the products of tissue waste, and especially of urea (O'Shangnessy). However, though there is, precisely as during the stage when the circulation is most impeded, and, in consequence of the "acute inanition" of the tissues, an almost complete suspension of the functions of nutrition; it is not at this time that there is the greatest proportion of urea in the blood, that does not set in until during the first few hours after the period of repair has commenced. During this period there is also an increase in white corpuscles, or *temporary leucocytosis*, which proceeds from a hyperplasia of the lymph-making organs. It is probable that the other elements of the blood, especially the albumen, become altered in quality, but if so the change has not yet been made out.

SYMPTOMS AND PROGRESS.

In order to appreciate the meaning and interdependence of the phenomena of cholera, it is necessary to keep in view the fundamental fact in the morbid anatomy of the disease; the only direct and immediate effect of the cholera poison is an intestinal catarrh with more or less transudation; the amount

of this transudation determines the degree of thickening of the blood, and the latter event, in its turn, induces certain symptoms whose severity is in direct proportion to the condensation of this fluid.

The disease exhibits several varieties which, clinically, diverge very widely from one another; but they originate solely in quantitative differences in the primary disorder; and these differences as I mentioned when speaking of the etiology of cholera, depend in part upon the susceptibility of the individual, and probably also upon the dose and activity of the poison.

The thickening of the blood is slight, moderate, or extreme in exact proportion to the amount of intestinal transudation; hence there are three forms of increasing gravity, which I have designated by the terms *choleratic catarrh* or *mucous cholera; cholerine or serous cholera; cholera asphyxia or paralytic cholera.*

The last is often called "confirmed cholera"; but this name is bad, for it implies that the first two forms are simple prodromata; on the contrary, they are manifestations of effectual intoxication, and not mere indications of threatened infection; they are confirmed cholera just as much as the third form, and the only distinction between them lies in the gravity of the secondary symptoms excited by the poison.

Besides, the first two, though they often pass into the third form, do not of necessity lead to it, and are really independent varieties, and should therefore be viewed as *distinct forms of cholera infection.* This is another point of similarity between cholera and typhoid fever, the abortive and light forms of which are now-a-days well recognized. But the resemblance does not stop here. Just as there are only two stages in abdominal typhus, one of which is the immediate effect of the poison, and the other a manifestation of organic efforts to repair its ravages; so cholera also has two stages: the first revealing the direct effects of the poison, and the second exhibiting the system engaged in the process of reäction and repair.

In both diseases the disorders wrought by the poison may be

so trifling that the work of repair is slight and imperceptible; hence, on one hand abortive typhoid fever, and on the other hand choleratic catarrh and cholerine—that is, cholera so light that there is no marked thickening of the blood, and no difficulty or danger in the period of repair.

The period of *incubation* in cholera lasts, on an average, from thirty-six to fifty hours; the longest authenticated duration is from three to five days. Incubation more prolonged than this, and mentioned by Pettenkofer and Faye, has not been confirmed by other authors.

MUCOUS CHOLERA.

This form is frequently encountered in all epidemics, but varies greatly in severity. Sometimes it is a complete manifestation of the mildest type of cholera poisoning; at other times it is simply the early stage of a graver form of the disease; only in the latter case can the term *premonitory diarrhœa* (so much abused in France) be justly applied.

The principal symptom is diarrhœa with flatulence and borborygmi, without cramps, which begins most frequently in the night or early in the morning; the evacuations vary from two to eight in number; they are feculent in character, contain mucus, and are tinged with bile.

While suffering from these symptoms of intestinal catarrh, the patient's general condition varies very much in different cases; this may be apparently normal and with a good appetite, or there may be indubitable signs of gastric catarrh with anorexia, the tongue thick and furred, a bitter taste in the mouth, thirst, nausea, and retching, and perhaps slight fever. The diarrhœa always and quickly induces a sense of fatigue and a degree of exhaustion which is entirely out of proportion to the number and magnitude of the evacuations; and there is extreme lassitude and headache, and a marked tendency to chilliness or copious perspirations. In the mildest cases choleratic diarrhœa lasts only one or two days; its mean duration is from five to seven days; but it may, in exceptional cases, extend over several weeks, the patient's condition oscillating all the time,

from better to worse and *vice versa.* As long as the disease continues, even in the mildest degree, the patient is in constant danger of the graver forms; but while such a transition is frequent enough, yet the ordinary termination of mucous cholera is recovery.

The clinical phenomena of this form of cholera are identical with those of common catarrhal diarrhœa, but its specific character is clearly indicated by its chronological relations to a confirmed cholera epidemic,—by its tenacity,—by its rebelliousness to treatment,—by the rapid exhaustion that follows it,—by its frequent transformation into serous cholera or cholera asphyxia,—by *the presence of the poison in the dejections from which follows that individuals affected with this diarrhœa transmit and propagate cholera in all its forms.*

SEROUS CHOLERA.

This variety is commonly called cholerine; but serous cholera seems to me preferable, because it indicates the peculiarity which distinguishes this form from the preceding one.

The action of the poison is sufficiently intense to excite the characteristic serous transudation, but this transudation is not so excessive as to induce extreme thickening of the blood and cardiac paresis which constitute cholera asphyxia. In about four-fifths of the cases the occurrence of serous discharges which marks the access of cholerine is preceded for some hours or days by a mucous diarrhœa; now and then however, this initial diarrhœa is wanting; the first copious evacuation completely empties the bowels, the second is perfectly liquid, and has all the characteristics which gave rise to the name *rice-water discharges.*

These latter are composed of a watery liquid, without odor and almost colorless, in which a variable amount of whitish flakes may be seen floating about, and looking very much like particles of rice; these flakes consist of masses of epithelium, young cells and of amorphous debris. The liquid has a neutral reäction, and has only one or two per cent. of solid residue, the rest is water; it contains a very small proportion of albumen,

extractive matter which is turned red by nitric acid, traces of salts of potassium, of urea, of carbonate of ammonia, the result of the decomposition of urea, a little chloride of sodium and phosphate of soda. Thus we see it is not the natural serum of the blood that passes into the intestine; the transudation consists of little else than water lightly charged with salts (Zimmermann). The dejections contain an abundance of vibriones and fungi, but we have no proof, so far, that there is any connection between these organic elements and the cholera poison.

The absence of color in the evacuations is not due to a want of biliary matters; but simply to the dilution of the bile pigment in the excessive quantities of water. Pathological anatomy shows that the gall bladder is full of bile, hence the secretion can not be arrested. From the onset the discharges vary in frequency from five to ten or fifteen in the course of a few hours; their frequent repetition is not attended by a diminution in quantity, and after a while they gush from the body without effort or control. In the meantime the change from mucous to rice-water discharges does not immediately produce that perilous condition which necessarily though somewhat later ensues. At the first access of rice-water dejections the patient is able to be about; he thinks the diarrhœa has simply become a little more severe, and it is only when the loss of water has been so enormous as to obstruct the vital functions that he falls into a state of alarming weakness and danger.

This moment arrives more or less quickly according to the frequency and the magnitude of the evacuations, and according to the rapidity with which vomiting sets in.

The occurrence of abundant rice-water stools is in fact quickly succeeded by not less copious *vomiting*, which takes place without nausea and without effort, just like simple regurgitation, and by which the patient ejects a liquid resembling that of the rice-water stools; but this liquid contains still more water, it has no decomposed urea (Schmidt), and the substance reddened by nitric acid is not found in it. Accompanying the

vomiting there is gastric and precordial oppression, and sometimes severe pains in the stomach; at the same time the patient has palpitation of the heart, ringing in the ears, vertigo, and a sense of great exhaustion; from perfect tranquillity the patient now passes into a state of great agony, fully justified by his imminent peril, and he is tormented by insatiable *thirst*, easily explained by the enormous loss of water he has sustained.

The effects of the condensation of the blood appear sooner or later, according to the number and magnitude of the evacuations; the function of hæmatosis is impeded, the breath becomes cold, *painful cramps* occur at intervals in the calves, thighs and toes; in the arms and fingers, and more rarely in the muscles of the face and trunk; the tissues deprived of water lose their fullness and shrivel; the circulation is retarded, for as the fluidity of the blood diminishes, the flow becomes more difficult and slow; the pulsations and sounds of the heart become more rapid and more feeble; the skin, especially of the extremities, becomes cyanotic and cold, and yet the patient suffers from a sense of burning internal heat. There is great diminution or entire suppression of urine, by reason of the loss of water and arrest of circulation; the voice is weak and broken; the patient becomes entirely exhausted and incapable of the least effort, and falls into a state of complete apathy, which puts an end to his fears. If the alteration of the blood proceeds a step further cholera asphyxia supervenes. In fact, the line that separates the two is often passed, and then the serous cholera I have described becomes the early stage of the most formidable of all the varieties of the disease.

In other cases the symptoms improve; or rather there is a *temporary* pause in their progress, but this deceptive amelioration is very short indeed; the symptoms return with renewed violence, and after all the case merges into cholera asphyxia at last. In a third group of cases the termination is favorable; in the course of a day, or even a shorter time, the gastro-intestinal flow ceases without having engendered a sufficient degree of condensation of the blood to produce paresis of the heart;

the stools become less frequent and copious, and are again colored with bile; the circulation returns, and with it the surface becomes warm again, and after a convalescence (period of repair) of a few days the patient is again in perfect health.

Just as mucous cholera is clinically identical with common intestinal catarrh, so also does serous cholera resemble cholera nostras (cholera-morbus); while they have in common the intestinal flux and consecutive thickening of the blood, at the same time the two affections differ very widely in regard to the specific nature of the cause, the presence of an epidemic, and the toxic properties of the dejections.

CHOLERA ASPHYXIA.

This is the expression of the most virulent type of cholera poisoning, the difference between it and the preceding form is in degree only; the symptoms are pecisely the same, but if they be more intense in this, the reason is simply that the condensation of the blood which gives rise to them is far more marked than in the other.

The development of this condition of asphyxia may be very rapid when the discharges, both "per orem" and "per anum" are excessively large and occur in very rapid succession; in these cases the other pathological phenomena are lost, as if they were engulphed by the enormous intestinal flux. When this condition is of but short duration, the patient may preserve no recollection of the exact order of the symptoms, and it is cases of this kind that gave rise to the mistake that the "paralytic stage" is sometimes primary. During this stage, which is often the immediate precursor of death, the evacuations diminish or entirely cease, because the enormous losses of water have exhausted all that the system can supply.

Jactitation and agony are succeeded by an ominous repose, with more or less complete intellectual torpor; ordinarily, the thirst and cramps continue, and there is general and marked cyanosis; the features are pinched, the eyes deeply sunken in the orbits from loss of adipose tissue, the fingers and toes are thin and shriveled; the skin has lost fullness and elasticity; it feels

cold as that of a reptile, and its temperature falls to the level of the surrounding atmosphere; the voice is lost, or barely perceptible, either from weakness of the laryngeal muscles, or because the force of the column of expired air is too feeble to throw the vocal cords into vibration; the absence of radial pulse, and the gradual diminution and final disappearance of pulsation in the femoral or carotid arteries at last reveal the cardinal fact of this stage—namely, *cardiac paresis;* the heart-beats can no longer be felt by the hand, the *second* sound is extinguished, and an indistinct and feeble *first* sound is the only indication of vital action in this rapidly failing organ.

The arrest of circulation is so complete that no blood flows when the arteries are cut, and the veins give out only a few drops of viscid black blood, which is not reddened by contact with the air; the blood corpuscles are unable to absorb oxygen, because they are overcharged with carbonic acid. This impairment or suspension of hæmatosis is clearly demonstrated by the steadily advancing change in the expired air, the proportion of carbonic acid in it becoming all the time less and less, until at last the *ex*pired air may be exactly like the air *in*spired, in which case the exchange of gases in the lungs has, of course, entirely ceased.

Although these phenomena often follow one another in such rapid succession that they seem to occur simultaneously, yet an analysis of their pathogeny will clearly establish the following regular subordination: Condensation of the blood;—physical changes in the circulation;—diminished arterial tension and diminution of the secretions;—inanition of the tissues and paresis of the heart;—arrest of the circulation and of hæmatosis;—pulmonary ischæmia;*—an altered condition of the red blood globules by an excess of carbonic acid, asphyxia of the globules.

The essential phenomenon then which distinguishes this from

* This term, according to Virchow, designates a local arterial anæmia, in which the blood is prevented from flowing into the parts for which it is destined.—Translator.

the preceding form is cardiac paresis; hence the term *cholera paralytica* is more correct than that of cholera asphyxia. The name "Algid Cholera" is the worst of all, for it embodies an error; it is true the temperature of the surface is lowered, but if we introduce the thermometer into the rectum or vagina, it will be found that the temperature is never less than the normal mean, and that in a majority of cases there is an increase sufficiently marked to be styled febrile; a temperature of 38.5° Cent. (101.30° F.), 39° Cent. (102.20° F.), 39.2° Cent. (102.56° F.), has often been observed (Güterbock, Zimmerman), and a rise in the thermometer to 40° Cent. (104° F.), has been seen several times. The term algid cholera is, therefore, improper, and fitted only to mislead. A very large number of patients die in this stage in the course of from two to thirty-six hours. If life is prolonged beyond these limits other symptoms appear, and when the patient succumbs still later he dies, not during the period of intoxication, but in that of repair.

PERIOD OF REPAIR.

The difficulty of repair and the length of time required for it are in direct proportion to the extent of mischief produced by the poison. In mucous cholera, the period of repair is transient and without any notable signs; in the other varieties it is more or less troublesome. This stage may assume two distinct forms, which are subject to considerable variations; *the common form and the typhoid form.* Whatever the type of the period of repair, its access is indicated by a return of the heart-sounds and of the pulse, the skin feels a little warmer, and there is a *fall in the temperature of the rectum*, the voice becomes stronger, the cramps cease, and the urinary secretion is again established.

The first urine voided is perfectly characteristic, it contains all the elements which, owing to stasis or a commencing nephritis, have accumulated in the tubuli, it is loaded with *epithelium, albuminous and epithelial casts*, it often contains blood corpuscles and always *albumen;* because of the suspension of interstitial combustion, it is poor in urea and chlorides;

but there is a large increase of sugar, *biliary pigment*, and a blue substance known as *indican* (Buhl), the proportion of which in normal urine is almost inappreciable. At this time the urine also often contains crystals of uric acid and of oxalate of lime. After the second emission, the urine may be entirely free from albumen and sugar, but the quantity of urea has increased, and when all goes well, the natural constitution of the urine is restored in the course of from three to six days.

The common form presents three varieties: *The process of repair may be regular and complete; incomplete; or excessive.*

The regular process of repair is characterized by a gradual and *uninterrupted* improvement in the symptoms; in the course of from six to ten days, counting from the beginning of the attack, the patient has returned to perfect health; under such circumstances there are often enough copious perspirations and a good temperature; sequelæ, such as furuncles and exanthematous eruptions are quite rare.

When the process of repair is incomplete, there is a notable improvement after the maximum of the attack has been reached, but this improvement does not progress uninterruptedly, and even when the case terminates in recovery at last, relapses involving real danger continue to occur during eight or ten days; the discharges having become mucous, become at times again alarmingly copious; or the warmth of the skin does not return permanently, but is interrupted by a recurrence of rigors; or after the first emission of urine, this secretion remains scanty and insufficient; the pulse may give signs of imperfect reäction—one day good, the next day it is small and almost imperceptible; in addition, the patient has not that sense of comfort and returning health which belongs to the period of repair when reäction is moderate and complete; his head is heavy and painful; he feels out of sorts, and is either morbidly somnolent or a prey to exhausting restlessness and excitement. This lingering convalescence may finally terminate in health, but in other cases all the symptoms of the original disease return, and the patient

succumbs, or, he may escape this peril only to merge into the typhoid state.

Excessive reaction is less frequent than the preceding varieties of the reparative process, and is distinguished from them by rather high fever, hyperkinesia of the heart, a full and often dicrotic pulse, and by symptoms of cerebral excitement especially headache and nocturnal delirium. However it may terminate, this febrile variety is of short duration; in a day or two the symptoms improve and free diuresis or diaphoresis, or perhaps an exanthem, attest that convalescence has fairly begun; if matters do not take this favorable turn, it passes after the same length of time into a confirmed typhoid condition. In either case this febrile state should be viewed as a reäctionary fever, due to the visceral fluxions, and especially to an active congestion of the encephalon (Griesinger).

THE TYPHOID FORM.

The conditions included under the term "typhoid cholera" have nothing in common with the complex symptoms of typhoid fever, except adynamia, and stupor and a dry and fuliginous tongue; in all other respects they differ, and it is surely no improvement to confound them under the same name. The cases belonging to this form present sufficient differences to be grouped in at least three classes. In very nearly one-fourth of the cases this grave condition results from a deficiency of urinary secretion; at the close of the attack an emission of urine takes place, but it is small and albuminous, the products of tissue waste remain in large quantities in the blood, and the patient dies of *uræmia*. In a second class of cases the character of the symptoms is such that we have named it *comatose*. After a day or two of fever and of cerebral excitement, the patient, instead of having abundant perspirations and other critical phenomena of an exaggerated reäction that terminates favorably, falls into a state of somnolence and coma, and dies; the autopsy sometimes yields only negative results, and death must be attributed to exhaustion; but sometimes there is intense

congestion of the encephalon and meninges with, or without, serous effusion within the cranium.

In the greater number of cases this *typhoid* condition is the result of *visceral lesions*, which, by reason of foregoing changes in the system, are incapable of regular and complete evolution. Some of these are due to the peculiar course of the *cholera lesion* itself, which presents no signs of repair, but remains stationary; others are the consequence of tumultuous circulatory reäction in vessels and organs in a state of extreme malnutrition or inanition, and of the injurious effects of the altered blood upon the tissues which, by uræmia, have been rendered unduly prone to take on morbid action. The most important of these secondary lesions are intestinal diphtheria, hypostatic or fibrinous pneumonia, cerebral and meningeal hæmorrhages; inflammation of the parotids, of the spleen, of the stomach, peritonitis, and, finally, laryngeal erysipelas and perichondritis. The cutaneous phenomena, which are likely to supervene about the seventh or ninth day, have no fixed form; the different exanthemata, even including one of varioliform character, have been observed; the eruption of crops of furuncles and abscesses rereveals a veritable pyæmic condition. Sloughing sores and gangrene of the extremities (Magendie, Delbrück) are of exceptional occurrence.

The duration of *convalescence* is in direct proportion to the difficulty of repair; in the most favorable cases the patient's digestive organs remain irritable, and susceptible to cardialgia and chronic catarrh. In other cases there is anæmia, which culminates in marasmus, and finally terminates fatally, after a variable duration. Relapses are common enough, especially when a judicious regimen is not carefully observed.

In conclusion, an apparently perfect and satisfactory convalescence is sometimes interrupted by the sudden and unexpected development of late sequelæ of the choleratic process; these are especially nervous troubles, (neuralgia, paralysis, mental alienation) or, perhaps, symptoms of confirmed Bright's Disease.

The diseases consecutive to cholera are, with one exception, tuberculosis, the same as follow typhoid fever.

If we now recall the other points of analogy which I have set forth, it appears that the pathological anatomy, the thermometric phenomena during the stage of repair, and the sequelæ of the two diseases establish a very remarkable resemblance between Asiatic Cholera and typhoid fever.

The external aspect of Asiatic cholera is most deceptive, and when we consider the disease as a whole, we are obliged to regard it as *a febrile process with a specific determination to the intestines.* If we set aside our views of etiology and treatment, all our endeavors to find any difference between cholera asphyxia and choleriform paludal fever, are entirely vain.

The resemblance of these two diseases is strikingly apparent. Let us suppose an epidemic of choleriform pernicious fever; the phenomena of the attack, the sequelæ, the degree of danger are the same in both; the efficacy of treatment with quinia alone will demonstrate whether we have to deal with the ordinary paludal poison or with the specific telluric poison generated in Hindostan.

THE PROGNOSIS

Is extremely grave, except in mucous cholera, which never proves fatal as such. The average mortality is from 45 to 60 per cent., but it varies very much in different places and epidemics and according to the crowding and general hygienic condition of the locality and the people. About two-thirds of the deaths occur during the attack itself, the rest during the period of reäction, and from consecutive diseases.

TREATMENT.

The prophylactic treatment of cholera is determined by the peculiar nature of the disease, and I shall content myself with pointing out the general principles that ought to govern such measures.

It is possible to confine cholera to the place of its birth.—Sanitary posts on the frontiers of districts where the disease pre-

vails as an endemic, and subjecting individuals coming from these districts to a rigorous quarantine, are all the conditions necessary in order to attain this object. Nay, it is first necessary to bring commercial and political interests in subjection to the interests of humanity, and that is the most difficult of all. If by reason of inefficient measures, cholera spreads beyond its original domain and threatens Europe, we must prevent its progress by confining by insuperable barriers the very first locality that may become contaminated by it, until the disease shall be entirely extinguished; and in order to decide as to this latter fact, one must take into consideration not only serous cholera and cholera asphyxia, but especially all cases of choleratic catarrh.

Free communication must not be permitted until pits and water-closets and all articles used by the sick shall have been thoroughly disinfected. Similar rules should also be observed in regard to all vessels arriving from suspected ports. In infected localities, *the sick and their attendants should, as far as possible, be isolated.* This is very difficult to accomplish in private houses, but it should be absolutely insisted upon in all hospital institutions. It is not enough to secure a deceptive appearance of isolation as they do in Paris; habitations, wash-houses, linen, latrines, attendants, everything employed for the sick, should be reserved exclusively for their use. Physicians ought to change their clothes before visiting other patients, and they should disinfect their hands by means of a weak solution of permanganate of potash. Disinfection is a matter of such importance that if it is thoroughly practiced, it may, to a certain extent, compensate for the neglect of isolation within the houses.

Vessels destined to receive the dejections of the sick should contain beforehand some disinfectant solution (sulphate of iron, sulphuric, nitric, or carbolic acid), in order that they may be acted upon at once; the linen should be treated in the same way before placed in wash. A suitable quantity of some disinfectant solution should every day be poured into the pits receiving cholera discharges, and healthy persons should not,

under any circumstances, be permitted to use these latrines; finally, the floor and all articles of bedding should, from time to time, be sprinkled with a similar solution.

If in consequence of neglect of these measures the poison has impregnated the soil and has become diffused through it, we must not hesitate to irrigate with disinfectants two or three times a day the whole extent of surface in the infected locality. Permanganate of potassa is, without contradiction, the most powerful disinfectant; unfortunately, it is too expensive to be thus lavishly used; sulphate of iron is free from this objection. Pettenkofer recommends a solution of it of 1 part to 48 parts of water. Ilisch has been induced, after many comparative trials, to give preference to sulphuric acid (1 part to 100 parts of water). Sulphurous fumigations and chlorine gas complete the list of these useful agents.

The prophylactic treatment of individual cases consists simply of hygienic precautions; whatever be the claims of shameless charlatans, no medicine can confer protection against the effects of this poison; all that can be done is to avoid the noxious emanations from the dejections, to avoid gastro-intestinal disorders by a careful attention to hygienic rules, and to treat as a serious disease the least derangement of the intestinal functions. A slight diarrhœa, which at other times might be with safety neglected, ought to excite anxious solicitude during an epidemic; this apparently simple diarrhœa may be a light form of cholera poisoning, and by treating it early and actively we may prevent the formidable transition of mucous into serous cholera.

The patient should be kept in bed, and on a guarded diet, opium in some form is to be administered with some stimulating aromatic drink (infusion of melissa, mint or tea); these comprise the remedies to be first employed. If the symptoms are arrested the doses of opium should be gradually diminished, but its administration still continued during three or four days; in the meantime the diet must be regulated with great prudence and care; and the patient is not to be considered well until the

fæces have again acquired "form" and several stools of normal consistence have been observed.

The host of medicines recommended in serous cholera is due to ignorance of its true pathology. Absurd theories have given rise to absurd plans of treatment. There was a time when all this was excusable, but that is now past. We must here, as elsewhere, be guided by pathogenic indications. The most important indication of treatment was enunciated by Hermann as early as the year 1830.

It is necessary, first of all, to arrest the intestinal flux, in order to prevent condensation of the blood and the advent of asphyxia and interstitial inanition; furthermore, it is necessary to act promptly, for *absorption from the surface of the intestine becomes very quickly suspended.* If I am called at the onset of the attack, I give one of the tinctures of opium in a vinous draught with acetate of ammonia and syrup of ether; if in the course of a few hours the stools have changed for the better, I continue this prescription, or substitute Dover's powder; but if the intestinal flux has not improved, I resort to the Anglo-Indian method, and give five centigrammes of calomel every hour, or every half hour if the case is urgent; at the first indication of coldness of the extremities I apply cold lotions of aromatic vinegar or spirits of camphor, but instead of repeating this application only two or three times a day, as in typhoid fever, I resort to it every two hours; after each application, which lasts from thirty to sixty seconds, the patient, without being wiped, is wrapped in a woolen blanket. Hot drinks, so often forced upon the patient, should be avoided, they only excite vomiting and diarrhœa; it is best to give pieces of ice or small quantities of frozen Seltzer water, and if the pulse becomes feeble, threatening cardiac paresis, it is well to substitute iced champagne, or brandy and water, or strong coffee and brandy. It is unnecessary to state that the calomel should be discontinued when vomiting ensues after each dose. Otherwise, the medicine should be continued in decreasing doses until the evacuations become mucous in character, or until they cease. If this

treatment does not succeed, and condensation of the blood induces asphyxia, Hermann's suggestion to restore to the circulation the necessary amount of water is the only rational one, it consists in injecting tepid water into the veins. This practice has been successful in a good many cases; it would probably succeed more often were mechanical impediment to the circulation the only trouble, but paresis of the heart, changes in the minute structure of the nervous system, and other tissues are often too far advanced to be remedied by a simple increase in the fluidity of the circulating medium. The common types of the reäction stage require no special treatment. Congestion of the brain, characteristic of excessive reäction, must be combatted by means of leeches behind the ears, cold applications to the head, and blisters to the lower extremities if required, but general blood-letting has never appeared to me to be indicated. In typhoid cholera the indications vary according to the predominant symptoms; the uræmic form must be treated (though without great chance of success) according to principles applicable in other cases of uræmia; in the comatose form cold affusion and stimulants are the best means; in the visceral forms revulsives and tonics constitute the best remedies. Dyspepsia is frequently observed during convalescence and requires the use of bitter preparations, tonics and quinine.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Address by Joseph W. Thompson, M. D., Paducah, Ky.

Gentlemen of the Southwestern Kentucky Medical Society,— In keeping with a justly established rule, I, as retiring President, briefly address you. I tender you my sincere thanks for the support and respect you have ever extended to me as your presiding officer. It is with the highest degree of pride that I

meet you in the county of Graves on this occasion, for hear "my foot is on my native heath."

The mutual obligations of the Medical Profession and society is the subject I have chosen to occupy your attention for a short time. The trust confided to the Medical Profession is one of the highest responsibility—the health of our fellow-beings, and in many instances, that which is dearer than life, the sacred character of families. We should do all in our power to fit ourselves to comply with the high trust which society has naturally and through necessity, confided to our keeping. Hippocrates, the father of medicine, administered a stringent oath to all his students, endeavoring to impress them with the grave responsibility of their calling. From that time to the present it has, for the most part, been the effort of teachers and prominent men in our profession to cause students and beginners to reflect upon the Christian responsibility of a practitioner of our vocation. You are called upon in the most trying times of family affliction, when the ravage of disease is threatening to destroy the life, it may be of a wife and mother of children, upon whom rests their present and future happiness; it may be an only daughter, just budding into womanhood, the pride of the hearts of an affectionate circle; or an only son, around whom cluster the brightest hopes of the family's future; or a father upon whom all are dependent.

Now, you should not assume this serious responsibility necessary to our profession, unless you feel sure you are qualified. No medical man can, in these times of active progress in our science, be competent to discharge the duties of a practitioner of medicine or surgery, unless he be a laborious student.

The learned Dr. Johnson has said: "The opinions prevalent in one age as truths above the reach of controversy, are confuted and rejected in another, and rise again to reception in remoter times."

What was acknowledged as truth in our profession fifty, twenty, or even ten years ago, has, in some instances, been proven by the developments of science to be fallacious. How

are doctors to keep pace with these changes and improvements, but by being close students and strict observers. You cannot discharge your serious obligations to society, unless you devote a good portion of your time to your medical library. I am in favor of every State in our country having a Medical Board, constituted of the ablest medical men, and requiring every doctor to be rigidly examined and pronounced competent before he be allowed to practice medicine. In our profession, above all others, if any of its members have not merit, he should not bear our banner. "Without the stamp of merit, let none presume to wear an undeserved dignity."

Ours is a comprehensive science, the only one which draws on everything in nature, from the tall mystic oak, to the minutest atom of earth. Light, air, water, sunshine, electricity—all have their bearing on the practice of the regular profession. It is the only profession known to mankind that embodies and in some way applies everything in nature. You cannot hope to keep informed in such a comprehensive and progressive science unless you apply yourself diligently to the study of it. The accidental success often attributed to professional men is, in my opinion, without foundation; and if the truth could be discovered, such persons hold the key to it in unceasing application by day and in the quiet hours of night. It is a very plausible apology for those who have neglected to avail themselves of opportunities to point to certain men as having reached high position by accident. It is with medical men like coin or currency; the counterfeit may circulate for a time, but its spuriousness will soon be detected, and therefore lose its hold upon the confidence of the public. Competent and studious men will continue to rise in public favor, meeting of course with the inevitable obstacles in any vocation dependent upon public favor, but "truth crushed to earth shall rise again."

Sir Walter Scott, in his beautiful novel "Ivanhoe," illustrates the success of professional men by a game of cards: "First one, then the other will win, but the skill of the player will ultimately triumph." Military men and speculators may, by

accident, achieve high positions; but medical honors can only be reached by the laborious student and close observer. It is related of the great John Hunter, that his success was due more to constant application, to the analysis of nature than to any special genius. John Hunter did more for the science of medicine than any other man. He was the great power of his day, in unravelling nature's secrets. The result of his indomitable energies developed facts which are guiding us in many things, even now. He died at the age of sixty-five, having devoted his entire life to the investigation of medical science, nature, and the practice of the profession. He accumulated a great museum of pathological specimens, rare animals and birds; a most invaluable collection. His executor applied to Mr. Pitt, then Premier of England, to purchase it, and the reply was, "I need all my money to buy gunpowder." After repeated efforts, Parliament was at length induced to buy this celebrated Hunterian museum for about one-fourth its original cost. This great man, who devoted himself so energetically and unceasingly to the study of disease and nature, bestowing such a blessing on mankind as to entitle him to high rank as one of the benefactors of his race, died a poor man. So limited were his means, that his wife was unable to purchase a niche in Westminster Abbey to place the remains of her distinguished husband alongside those of Byron, Pope, and Johnson, as was the custom in England to deposit the remains of men of renown in this historic burial place. Be it said in honor of our noble Profession, that fifty years afterward the Royal College of Physicians and Surgeons of London disinterred his remains and placed them there by the side of "rare Ben Jonson." Now, it is evident that if society had properly rewarded him for his eminent services, his family would not have been left with such feeble financial resources. The same neglect in compensating the lesser lights has been practiced throughout the history of the science. The Medical Profession recognizes the results and fruits of Hunter's immense labors in founding sound principles that guide us now, though he has

been dead over two-thirds of a century. If we desire to gain medical knowledge that will enable us to attain prominent positions in the Profession and before the public, we must be students, not only for awhile, but each and every day of our lives. We must thus labor if we would discharge our duty to society. After having selected the Medical Profession, and realizing that we cannot comply with its requirements, we should at once abandon it; and if we must be sluggards, be so in some other calling, in which the sacrifice of human life will not be the price of our indolence and incompetency. The grave may conceal for a time the results of our ignorance; but doctors, like all mankind, must finally stand before Heaven's tribunal, where there can be no evading of these sacred responsibilities, and from whose verdict there can be no appeal.

We should be zealous students and close observers, and drink deeply from the fountains of medical science, in order to discharge well the trust necessarily confided to us.

It is evident, that in order to elevate our Profession to its true position, proper support and due respect must be rendered by society. You hear the people say much about what should be the high standing of the Medical Profession, and a majority of doctors realize the good results that would accrue from it to both the suffering people and the Profession. But to secure this much desired success, the aid must be reciprocal. It must be remembered that properly qualified doctors of medicine expend considerable money in acquiring an education; and the expenses necessary to the support of a physician and his family, in keeping with their position in society will, amount to no small sum yearly; and it is but just that they should accumulate a competency for old age, for this is the aim of the thoughtful in every vocation, that they may not be a reflection of the subject of Burns' story-picture:

> "Age and want—oh, ill matched pair!
> Show man was made to mourn,"

With the present custom of honoring medical bills, it cannot be said that society is complying with its obligations to the Pro-

fession to which it looks in its saddest trials, and in whose hands it places its life and health. The merchant's, the grocery bills, and bank accounts must all be paid; and if, perchance, there be any money left, the doctor can then be paid. Every physician here knows well that this is no exaggeration. How strange and unjust the reasoning of people who expect their family physicians to be cultivated men, to possess good libraries, receive regularly a number of medical periodicals, and keep supplied with surgical instruments, and yet pay them last of all, and often not pay them at all, the money failing to hold out until his time is reached. While the present system of honoring medical bills is continued, the Profession can never be properly elevated, and the accomplishments that might be acquired by practitioners cannot be attained. But, under the existing rules, the people are succeeding in an eminent degree in keeping most of the doctors on a respectable point of starvation. You cannot expect poor soil to produce as much as rich lands; nor can you hope to have the benefits of cultivated medical talents, unless they can secure the means, as a reward for professional service, to enable them to keep pace with the improvements in our science. The present rule of paying doctor's bills is not only unjust, but a serious detriment to society. If the people would honor medical fees as they do those of the merchant or grocer, they would do more than all things else for the welfare of society and the good of our Profession. When it appears that the last flickering hope for the life of a dear one is well-nigh gone, what would you not give for a scientific physician—one who is familiar with the innermost recesses of the temple of medical science? "Oh, anything! Yes, dear doctor, everything I possess, if you will only save the life of this one, around whom my affections cluster!" If, perchance, his efforts, aided by nature, are crowned with success, the life of the dear one saved and health restored, instead of giving "Here, my Lord, my all!" they often omit to pay a moderate bill, and if an opportunity is offered, around the fireside or on the street corners, they may be found prominent in denouncing

the doctor as being a high charger and an exceedingly selfish man.

Now, if society were familiar with the sacrifices that our Profession has made from the time of Hippocrates to the present, it would not presume to require its members to do more under existing circumstances. When a contagious, a malignant disease has swept over society like a hurricane; when people flee for safety; then it is the true physician stands firm at his post. The Profession brands its member a coward who turns from disease. "He who guards the portals of the grave, must not fear death." "When pestilence stalks at noonday; when the cheek of the warrior who has stood the brunt of an hundred battles pales with nameless fear; when the dread plague is abroad; then does all that is heroic in our Profession show itself. No soldier must desert the ranks; but, like the stern sentinel at Pompeii, the physician must brave the fearful ordeal, and die, if necessary, at his post. The records of our Profession are full of names who have thus perished in the battle against the common enemy of mankind. From the heroism of Desginetts, who, under the shadows of the eternal pyramids, slept with the plague-stricken soldier to prove the plague was not contagious, and to reässure the panic-stricken army of the great conqueror; to that of Sidney Branard, who gave up his life in tending fevered sufferers on the Eclair, the roll of honor is not a small one."

These bold, self-sacrificing acts have been done, stimulated by the promptings of a conscientious discharge of a sacred duty. Not cheered by floating banners or exclamations of victorious battalion, or the inspiring strains of martial music, but simply actuated by a conscientious obligation to poor suffering humanity in the sadest trials of life.

In the eighteenth century, there lived an unpretending doctor in the town of Gloucester, England, who did more for society than has ever been appreciated. I allude to Doctor Edward Jenner, who first introduced vaccination. Jenner has, by the discovery of vaccination, conferred the greatest blessing on

mankind that has ever been done by man. By it, one of the most loathsome and fatal diseases can be made comparatively harmless. To his memory the world owe the homage due one of the greatest benefactors of the people. By his discovery he gave his country national character and influence, not only in peace but in war. Cuvier has said: "If vaccination were the only discovery of the epoch, it would serve to render it illustrious forever." In the wars that England had with France, Spain, and Austria, on Jenner's application English prisoners were released, when it certainly would have been refused through military or diplomatic negotiations. During the war between France and England, under the leadership of Napoleon I. and Wellington, the French captured and held as prisoner of war a young English nobleman, refusing his exchange to the military authorities. Dr. Jenner addressed a letter to the French Emperor requesting his exchange or release. The great Napoleon acceded to this request, writing in answer that he could not refuse one who had done so much for the human family. Napoleon appreciated the blessing Jenner had conferred upon mankind, not only for the present, but throughout the extent of time. He therefore granted to him what he had refused to the highest power in England.

The Medical Profession requires its members to pass many sleepless nights and hours. There is none so responsible. We must respond to the calls of suffering people as promptly in the pelting snow-storm at midnight hours, or under the intense heat of the noonday sun in August, as we do in the regular business hours in the most pleasant season.

Now, all intelligent thinking persons will agree that I have not overdrawn in my estimate of the service rendered society by educated members of the Profession. Then there must be a radical change in the manner of paying doctors' bills, and in the manifestations of regard to the dignity of their position, before the Medical Profession can be elevated to its true position, or bestow those blessings which only a high standard of excellence can confer. I am frank to confess that many prac-

titioners of our calling are incompetent, and are more the weapons of destruction than the means of ameliorating the condition of poor suffering man. This is due as much, if not more than anything else, to the want of proper support to the cultivated and competent members of the Profession. The people seem desirous of fostering empiricism, especially if their charges are a little lower than those of the educated physician, which they can well afford to be, having no capital invested. If there could be harmonious action between the people and the medical men, it would both elevate the professional standard and redound to the advantage of the afflicted.

The Southwestern Kentucky Medical Society is so far a success. It is now justly considered the most active and promising organization of the kind, not only in Kentucky, but throughout the West. I know all will admit that we have been much benefited by its meetings.

In conclusion, then, allow me to urge upon you the importance of using your energy to sustain and increase its success. If we desire to advance in the Profession, we must have well organized medical societies, where we can have an interchange of opinions and cultivate the social relations. Let us pledge ourselves to-night to continue to foster and increase the interest in our Society. Its success will be our triumph, and the unfortunate sufferers in our section will be benefited in proportion.

The Medical Profession has much to accomplish yet, and by proper application and energy it can still further lighten the ills of suffering people, and render curable some of the now incurable maladies. Nature is slow to unlock her secrets; but if the members of the Medical Profession will work zealously, she will gradually but surely unfold to them the profound mysteries. Consumption, cholera, yellow fever, cerebro-spinal meningitis are yet baffling the most gifted of our practitioners. But recently a village and its surrounding country in an adjoining county have been fearfully scourged by the presence of this

latter disease. Many houses are now draped in mourning for the loss of its victims.

Therefore we have much work before us yet. The great surgeon, Velpeau, in his last lecture, says: "Behold, gentlemen, a vast subject for research in the midst of so many others, for nothing shocks me more than to hear said every day, even by young people, that science is accomplished. Error. Almost everything is yet to be done." Now, each one of us can, if he labors and studies as he should, add some valuable fact to our science. It is true society has much neglected our Profession, and in many instances, stamped it as having feebler resources. The people seem to be unmindful that the fiat of nature has fixed, and it is registered in God's Holy Book, that "thou shalt surely die." "There is no appeal for relief from the great law which dooms us to dust." We are often blamed for results of omnipotent law; but we must remember that the human mind has its frailties, and therefore often judges unjustly, especially in reference to doctors, as no amount of learning in other branches or professions can enable them to determine properly the qualifications of physicians. The paucity of our resources is a matter of sad regret to us. "Poor it may be, slighted it may be, but degraded it cannot, shall not, be, so long as its foundation is science and its end the good of mankind."

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

The Advantages of Sea-Air to Health.

Steamship Egypt, Atlantic Ocean, June 24th, 1873.

My Dear Friend, Dr. Gaillard:

It has occurred to me that a few thoughts on the benefits of a sea voyage might not be altogether uninteresting to your nu-

merous readers, since so few of them know practically what this is. As I am now engaged in making my thirteenth passage across the Atlantic, besides several trips along its coasts, both American and European, I can speak by the log, as the sailors say, or as we doctors have it, by experience.

During the last forty years a great change has taken place in navigation, by substituting steam as the motive power, instead of trusting to the fickle winds; and already the swift-going steamer has almost supplanted the uncertain and slow-moving sailer. A voyage which would require a month, or of unknown period, is now made with almost mathematical precision in a few days. Ships, too, limited to a few hundred tons, have given place to those measuring as many thousands. My first voyage to Europe was made in a vessel of 375 tons; the one on which we are now approaching the Eastern Continent has the capacity of over 5,000 tons. This great increase in the size of sea-going steamers has added greatly to the comfort of passengers in many respects, but particularly in limiting the constant tossing and rolling of the vessel; this being the principal cause of sea-sickness.

There is a marked difference, in several respects, in the voyage across this ocean in going to and returning from Europe, whether by sail or steam. This is apparent by comparing the time consumed in my twelve voyages. Thus, in November, 1829, Cape Clear, southern coast of Ireland, was made in twenty-one days from Charleston, S. C., in a small cotton ship, and Liverpool reached in twenty-eight days; while returning home in the same months, November and December, 1831, from Havre to New York in a new packet-ship, required fifty-three days. So again, in May, 1839, I landed at Havre in twenty days from New York, and returned during the fall, same year, after a passage of thirty days in a sailing-packet. In 1847 I crossed in the steamer Caledonia from Boston via Halifax, to Liverpool, in eleven days, and returned to New York in a French frigate converted to a passenger steamer, called the "Union," in sixteen days. Previous to my return, I consulted this year, in

London, Sir Marshall Hall, C. J. B. Williams, Dr. Watson, and Mr. Liston; also, Velpeau, Trousseau, Rostan, and Leuret, in Paris, in relation to a case of epilepsy occurring in my own family. It is due to a dear friend and an associate while in in the Medical Department of the University of Louisville during the course of lectures in the winter of 1850–1, to state that Professor Henry Miller correctly diagnosed the case above alluded to, after the above distinguished professional gentlemen had failed to do so—viz., that it was ovarian in its origin. The English gentlemen, however, could not make a minute examination of it.

In 1852 I was a passenger from New York to Havre in the American steamer Franklin, crossing in twelve days, and made the return trip in the Atlantic, Collins' Line, from Liverpool to New York, in ten days, being the only instance in which the return home was the shortest. In July 1859, in the Cunard Line steamer Persia, from New York to Liverpool was made in nine days and four hours from port to port; while on the same vessel in September, sixteen days were required for the return, two days of which time, however, were consumed in repairing the machinery. July, 1867, I crossed in the City of Boston (now at the bottom of this ocean) to Liverpool in ten days, and returned to New York in the City of Antwerp in twelve days.

These facts make it evident that the easiest direction to cross the Atlantic ocean is from west to east, and there are, as might be supposed, good reasons for the difference. In the first place the Gulf stream, this mighty river in the ocean, so beautifully described by the immortal Maury, runs a course from the southwest to the northeast. Passing through the straits of Florida, it runs along the coasts of that State—Georgia, South and North Carolina; diverging more to the east at Cape Hatteras, it then stretches across the Atlantic to the western shores of Europe. It modifies the temperature of the waters in this ocean; is the region of almost perpetual squalls, fogs, and rain. This current assists vessels in going to Europe as well; also, on the contrary, it impedes their progress westward. But for the

Gulf stream, philosophers believe the western portion of Great Britain, France, etc., would be uninhabitable. It is the heat derived from it, which not only dissolves the ice-bergs on the banks of Newfoundland which bring down the food from the arctic regions to feed the fish of the deep in this region, but which, extending across the ocean, provides nourishment for man and beast on another and distinct continent.

Another reason why the passage eastward is so much more easily made, is the prevalence of the westerly winds. For the past seven days we have had a constant southwest, west or northwest breeze, supplementing our steam power about a mile an hour. In going to Europe it is safe to count on a fair wind for about two-thirds or three-fourths of the way.

Another remarkable circumstance on the voyage across the Atlantic is the humidity of the air. It has rained every day since we left New York. I don't recollect ever seeing the sun rise or set fair on my several voyages across this ocean. That luminary seldom shines forth in all its glory on the mid Atlantic.

But above all other things most conducive to health at sea, is the pure air and agreeable uniform temperature. While the impurity of the atmosphere in our crowded cities is set down at ten per cent., on the top of mountains and mid ocean it is only estimated at half a per centum. Then again there are no great or sudden changes occurring. While in Nashville during the eleven days preceding our departure the thermometer ranged from 63 to 104 degrees, and during the preceding month from 50 to 110; its variation on our ship, under precisely similar circumstances, has only been from 50 to 76—the average being about 65 degrees, that acknowledged by all to be the most agreeable to man, and conducive to health.

Estimate next the relaxation from the corroding care of business, the observance of regular hours, free exercise in the open air, agreeable companionship with fellow-passengers, good living for the inner man, and we have the surroundings for invigorating the general system.

Of course sea-sickness is a serious distress to many, but it is becoming less so every year, and fortunately seldom proves fatal, and lasts but a few days.

Very truly yours,

PAUL F. EVE.

LONDON, June 30, 1873.

My Dear Dr. Gaillard:

It gave me great pleasure to learn here that the University of North Carolina had conferred the honorary title of LL. D. upon the editor of the "Richmond and Louisville Medical Journal." May he live long and prove each day how gracefully he wears the honor so deservedly bestowed.

I might have added in proof of the prevalence of westerly winds in this latitude, in my last letter, the stirring fact, that when Mr. Jefferson called the late distinguished Dr. Dunglison to a professorship in the University of Virginia, he was *six weeks* in clearing the English channel.

To-day, my only professional one (for you know I have a large party of young ladies, excursionists to Vienna, etc., under my care), I have been greatly gratified to have met Sir James Paget, Sir Henry Thompson, and Sir William Fergusson. Mr. John Erichsen, who has so kindly mentioned me in his great surgical work, I regret to state is quite ill with abscess near the neck of the bladder. Mr. Paget, who is attending him, has just resigned his connection with the St. Bartholomew's Hospital, and retired to private practice. I see but little change in either of the gentlemen whom I saw. Sir William Fergusson uses the knife as skilfully as ever he did, and evinces no encroachment of age. He told me he was fifty-six years old.

At King's College Hospital he operated on three cases to-day. The first was for talipes varus, beautifully done by the puncture, distinct division of the tendo-Achilles, and the reduction of the foot to its proper position. The second was for cleft palate, patient about four years, with secured hands and

feet by bandages, and then a liberal use of chloroform. While it proved to be a tedious operation, yet it was well performed, the margins of the fissure sparingly cut away and completely closed by three silk sutures—only the soft palate being involved in the cleft. In this operation Mr. Wood's dilator for the mouth was used, being a new instrument for this purpose, and it acted very efficiently.

The third patient had quite an extensive necrosis of the tibia. This was his second operation, now involving its spine and body of the bone, which was largely gouged out, with very profuse hæmorrhage.

The "London Lancet" still maintains here its ancient renown, all over Great Britain, and I clip from it several items for your consideration.

We hear less of the cholera as we approach the Asiatic wave, which all pray has or will be stayed.

We leave to-day for the Continent to be absent five or six weeks.

I regret being too late to see two operations (private) to which I had been invited by Sir Henry Thompson, and have failed as yet to see Mr. Wakley, editor of the "Lancet."

Yours truly, PAUL F. EVE.

NEW YORK, July, 1873.

Dr. E. S. Gaillard:

My Dear Doctor,—I was very sorry to see so little of you, and miss you so often.

In all the small towns, Franklin, Gallatin, Bowling Green, Woodburn, etc., down to Nashville, the proofs of the importation of the disease (Asiatic cholera) were very clear.

In Nashville I find that cases from New Orleans had been left from the cars; negroes and Germans had come up from New Orleans and died of cholera; and it had been imported by means of convicts in the penitentiary. There is not a shadow of doubt that the disease was imported into New Orleans in January and February by vessels from the Baltic, and possibly

also from the Black and Mediterranean seas, from ports where cholera prevailed last year.

There were 141 deaths from acknowledged cholera in New Orleans, and 92 from suddenly fatal so-called cholera-morbus, many of which were undoubtedly cholera.

The traces of the conveyance of the disease by railroad to Montgomery, Birmingham, and Nashville, are quite distinct—also up the Mississippi river by boats to Vicksburg, Memphis, St. Louis, Evansville, and Cincinnati.

From Nashville the proofs of conveyance to Bowling Green, Gallatin, Woodburn, and other places, are impregnable. The disease has progressed so slowly because the enormous tide of foreign emigration which used to pour up the Mississippi has dwindled down to small proportions.

Even in the worst stricken places, Murfreesboro', Nashville, Bowling Green, etc., etc., the best parts of the town remained almost perfectly free from the disease. The exemption of your clean and beautiful Louisville is also a proof that cholera requires localizing causes of filth, bad water, etc., etc., in order to fasten itself upon a place.

About the localizing causes in houses, I think they must be attributed to the presence of persons contaminated with the disease, and the clothing and eating and drinking utensils contaminated with the rice-water discharges, and occasionally drinking water which has been left standing too long in rooms.

As regards the localizing causes in individuals, I think drinking water in which choleraic discharges have got is the most important factor.

I doubt much whether any amount of diarrhœa, dysentery, cholera-morbus, or bad vegetables or fruit will ever cause true Asiatic cholera in a person down whose throat some of the cholera poison has not already gone, but these accidental causes may precipitate and intensify an attack of Asiatic cholera, and do much towards determining a fatal result.

J. C. Peters, M. D.

MANKATO, MINN., 1873.

E. S. Gaillard, M. D.:

Dear Sir,—I take the liberty of sending you the proof-sheet of the transactions of the Blue-Earth County Medical Society of January 9th, 1872, and call your attention to my report upon the action of glycerine on vaccine virus, as well as its effects on small-pox. I treated thirty-two cases of small-pox in one township in the fall of 1871; used glycerine in about twenty. It invariably gave relief to my patients, shortened the duration of the eruptive stage, and lessened the severity of the disease. I saturated lint with glycerine, and spread it over the parts night and morning; commencing at an early stage of the eruption. I was glad to see Dr. Gibson's article on this subject in your December number; his conclusions will prove correct.

Yours respectfully,

W. R. MCMAHON, M. D.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---HOR.

Chloral in Cholera.—During the epidemic which has recently prevailed at Riga, Dr. von Reichard has had recourse to chloral, administering it according to the following indications: "1. To relieve the cramps at the commencement. 2. To assuage the præcordial suffering which is so distressing during the latter stages. 3. To arrest vomiting. 4. To procure the sleep so urgently demanded by the patients. Not only were these indications fulfilled, but the success obtained from the medicine surpassed all expectation. In one case in which the ordinary treatment had been pursued, and the patient seemed as if he had only a few hours to live, a drachm of chloral was given him in four times the quantity of water, so that a strong sense of burning was felt while swallowing it. In two minutes sleep

had commenced, and, troubled at first, it became calm and lasted three hours. Respiration became easier, the warmth and turgescence of the surface reäppeared, and the pulse diminished from 130 to 90. The vomiting and stools ceased, and, in fact, a true resurrection was effected, the patient rapidly recovering. M. Blumenthal, also of Riga, has used it in two bad cases successfully, in doses of a drachm repeated two or three times in the hour.—*Medical and Surgical Reporter.*

Ipecacuanha used as an Injection in Dysentery.—In the India "Medical Gazette" of July 1, Surgeon Charles M. Jessop, 4th Hussars, states that he has been very successful in the following method of treating dysentery. He gives as an enema ten grains of the powder, with half a drachm of laudanum, in two ounces of arrow-root mucilage three times a day until the symptoms abate. The patient is also kept absolutely at rest in bed, and milk diet and bland drinks only allowed, with sometimes a dose of castor-oil, tincture of rhubarb, or senna, in drachm doses, with a few drops of laudanum first. He rarely applies leeches to the anus, but prefers fomentations of steam or hot water to the stomach and arms, the parts fomented having been insulated with an oleaginous fluid to prevent catching cold. The ipecacuanha is valuable in direct proportion to the lowness of the part affected, and acts very quickly in rectal dysentery. He insists that no patient should be allowed to get up until the stools are natural in color; and the entire disuse of tobacco should be rigidly enforced, both in the acute and chronic form of the disease.—*Ex.*

The Origin of Enemata.—Frederigo Kernot, of Naples, in a newly published "Storia della Farmacia," describes, "with true Southern liveliness," according to the "Pharmaceutical Journal," the invention of the enema apparatus, which he looks upon as an epoch in pharmacy as important as the discovery of America in the history of human civilization. The glory of the invention of this instrument, so beneficial to suffering mankind, belongs to an Italian Gatenaria, whose name

ought to find a modest place together with Columbus, Galileo, Gioja, and other eminent and illustrious Italians. He was a compatriot of Columbus, and a professor at Pavia, where he died in 1496, after having spent several years in the perfection of his instrument. The enema-apparatus may be justly named the queen of the world, as it has reigned without a rival for three hundred years over the whole Continent, besides Brazil and America. The enema came into use soon after the invention of the apparatus itself. Bouvard, physician to Louis XIII., applied two hundred and twenty enemata to this monarch in the course of six months. In the first years of Louis XIV. it became the fashion of the day. Ladies took three or four a day to keep a fresh complexion, and the dandies used as many for a white skin. Enemata were perfumed with orange, angelica, bergamot, and roses; and Mr. Kernot exclaims, enthusiastically, "O! se tornasse questa moda!" (Oh, that this fashion would return!) The medical profession at first hailed the invention with delight, but soon found the application *infra dig.*, and handed it over to the pharmacist; but shameful invectives, sarcasms, and epigrams, hurled at those who exercised the humble duty of applying the apparatus, made them at last resign it to barbers and hospital attendants. As a specimen of these epigrams, the author gives the epitaph on the tombstone of an ancient pharmacist:

"Ci-gît qui pour un quart d'écu
S'agenouillait devant un cu."

—*British Medical Journal.*

Colors for Druggists' Show Bottles.—Amber: Dragons blood, in coarse powder, 1 part; oil of vitrol, 4 parts. When thoroughly dissolved, dilute with cold distilled water till the required tint is obtained. Lilac: Dissolve oxide of cobalt in hydrochloric acid, adding sesquicarbonate of ammonia in excess, and afterwards sufficient ammonio-sulphate of copper to bring the desired color. Orange: Dissolve bichromate of potash in water and add a little sulphuric acid. Violet: Mix together so-

lutions of nitrate of cobalt and sesquicarbonate of ammonia, adding a sufficiency of ammonio-sulphate of copper to strike the required color. Blue: Take of solution of perchloride of iron 10 drops, yellow prussiate of potash 10 grains, oxalic acid, 2 drachms, water 1 gallon. Red: Solution of perchloride of iron 10 drops, sulphocyanide of potassium 10 grains, water 1 gallon. Crimson: Iodine and iodide of potash, of each 30 grains, hydrochloric acid 1 drachm, water 1 gallon. Green: Sulphate of copper 1 drachm, bichromate of potash 30 grains, strong liquor of ammonia 2 ounces, water 1 gallon.—*Boston Journal of Chemistry.*

Ergot in Dysentery.—In the "Gazette Hebdomadaire" is published a communication to the French Academy from Prof. A. Luton, of Rheims, who states that he has used ergot with remarkable success in a violent protracted epidemic of typhoid dysentery in that city. He gives the ergot in powder, three grammes a day, in divided doses, and has also used ergotine in corresponding doses. In most cases convalescence is established on the third day; in other cases a longer time is required. Under its influence the blood soon disappears from the stools, pain and fever disappear, and the whole train of symptoms rapidly ameliorate.—*Ex.*

Carlo Parvesi's Styptic.—Take of Collodion 100 parts; carbolic acid 10 parts; tannin (Pelouse's), 5 parts; benzoic acid (from gum), 5 parts. Mix the ingredients in the order above written, and agitate until perfect solution is effected. This preparation has a brown color, and leaves on evaporation a strongly adherent pellicle. It instantly coägulates blood, forming a consistent clot, and a wound rapidly cicatrizes under its protection.—*Carlo Parvesi.* (*Amer. Jour. Dental Science.*)

Styptic Cotton.—Dr. James Cummiskey commends ("Philadelphia Medical Times," January 1, 1872) the following modification of Dr. Ehrle's formula:

Take cotton of the best quality; boil in a weak solution of soda (four per cent.) for about an hour; wash with cold water;

press out and dry. Then steep the cotton in liquor ferri sulphatis (diluted one-third); press and air-dry; after which pick to pieces.—*Ex.*

Frozen Beef Essence—Dr. H. B. Hare states ("Philadelphia Medical Times," October 16, 1871) that in a case of scarlet fever in a child, the patient could not be induced to swallow the beef tea which his condition required. As he took ice with avidity, the father suggested that if the beef tea were frozen he might then be induced to take it in that form. The suggestion was carried out, and the child took the frozen beef tea readily. This expedient may in many cases be advantageously resorted to.—*Ex.*

Tannate of Quinia.—In a communication to the Paris Academy of Medicine, March 12, 1872, M. Sistach states that in his experience the tannate of quinia is less powerful than the other salts, and must be used in larger doses, but that it is preferable, as never producing headache, or ringing in the ears, or the state of nervous excitement sometimes engendered in females by the use of the sulphate. Subsequently M. Briquet affirmed to the Academy, as his experience, that the tannate is but very partially absorbed; that its composition is variable; that it is untrustworthy; has no especial therapeutical powers, and is unworthy a place among medicines.—*Exchange.*

Colored Fires.—A member of the German artillery corps gives the following formulæ for making colored fires:

1. White light: 8 parts saltpetre, 2 parts sulphur, 2 parts antimony.

2. Red light: 20 parts nitrate of strontia, 5 parts of chlorate of potash, 6½ parts sulphur, 1 part charcoal.

3. Blue light: 9 parts chlorate of potash, 3 parts sulphur, 3 parts carbonate of copper.

4. Yellow light: 24 parts nitrate of soda, 8 parts antimony, 6 parts sulphur, 1 part charcoal.

5. Green light: 26 parts nitrate of baryta, 18 parts chlorate of potash, 10 parts sulphur.

6. Violet light: 4 parts nitrate of strontia, 9 parts chlorate of potash, 5 parts sulphur, 1 part carbonate of copper, 1 part calomel.—*Druggists' Circular.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

ART. I.—DISEASES OF THE URINARY ORGANS, INCLUDING STRICTURE OF THE URETHRA, AFFECTIONS OF THE PROSTATE, AND STONE IN THE BLADDER. By JOHN W. S. GOULEY, M. D., late Professor of Clinical Surgery and Genito-Urinary Diseases in the Medical Department of the University of the City of New York; Surgeon to Bellevue Hospital, etc., etc. New York: William Wood & Co. 1873.

Having on different occasions during the last six years enjoyed the privilege of witnessing the performance by Professor Gouley of some of the most difficult and important operations on the genito-urinary organs, and having been profoundly impressed with his consummate skill and ability as a practical surgeon, we hailed with eagerness the promise of a monograph from his pen on a class of diseases to which he had given special attention. We felt assured in advance that it would prove a most valuable addition to the literature of a very important department of surgery, notwithstanding the fact that Sir Henry Thompson's admirable publications were well nigh exhaustive as general treatises at the date of their appearance, and that interesting and valuable contributions on special topics were to be found in the later medical journals from the pens of several eminent surgeons at home and abroad. Dr. Gouley's skill and success as an operator are well known to all who are familiar with the current history of practical surgery in the hospitals of New York. We are now warranted in accrediting him with some of the best qualities of a medical writer, as exemplified in a style at once simple, lucid, and graphic, and admirably adapted to the purposes of didactic exposition.

The author shows himself to be perfectly familiar with all that is valuable in the literature of the subjects which he discusses. His work, however, is very far from being a compilation from the writings of others; but, as he frankly states in his modest preface, it embodies the results of his own personal observations and experience in private practice and in the public institutions with which he has been connected. In our opinion he has fully accomplished the object which he had in view, which was, as he states in that preface, "to write a handy book on the pathogeny, clinical history, and treatment of some of the graver surgical diseases of the male urinary organs, which he hoped may be of service to the practitioner, by pointing out means for their early detection; for lessening the difficulties of their management; and indicating, in cases of emergency, what to do and what to avoid." When his conclusions happen to be at variance with the teachings of leading authorities he, in a modest but manly way, states the reasons which have influenced his own judgment. We may add that in many cases his reasons have commended themselves to the approval of contemporary specialists who have adopted and confirmed his conclusions.

Not aiming to produce a complete treatise on all the affections of the genito-urinary organs, he has restricted himself to the consideration of "some of the graver surgical diseases of the male urinary organs," such as stricture of the urethra with its consequences, the common diseases of the prostate, stone in the bladder and its treatment by lithotripsy, by lithotomy, and by the new operation of perineal lithotrity. In the exposition of his views on each of these topics he has exhibited a marvellous power of condensation, and has presented a clear and perspicuous description with a marked absence of all superfluous verbiage and of all useless details.

Chapter I. treats of the causes, pathology, symptoms and sequelæ of stricture of the urethra. In accordance with the doctrines of Sir Henry Thompson he gives a definition of urethral stricture, which excludes the so-called inflammatory and spas-

modic strictures from this category. His definition is in these words: "A *permanent* morbid condition of the walls of (*some portion of*)the canal, generally causing a *progressive* diminution of its calibre." This definition, by reason of the significance of the words which we have italicized, seems to be more accurate, as well as more fully descriptive, than that of Thompson, who makes a stricture to be "an abnormal organic contraction of some portion of the urethral canal."

In considering the *causes* of idiopathic stricture, the author dissents from the broad opinion of those who denounce injections employed in the treatment of urethritis as a principal cause, and holds that injections are seldom *per se* liable to such a charge. Nevertheless, he maintains that they sometimes assist to produce a stricture by aggravating and prolonging an already existing inflammation, and especially will this happen by the use of a strong solution of nitrate of silver in the so-called abortive treatment of gonorrhœa, which we are glad to find he wholly discountenances, declaring it to be "happily falling into disuse."

In considering the pathology of urethral strictures, the author, after briefly alluding to the exploded ideas of surgeons of a past century respecting "excrescences," "caruncles," "carnosities," "callosities," etc., in urethra, cites with approval the views of Désormeaux, who makes granular urethritis play a most important part in the production of organic stricture, considering it indeed as the "formative stage" thereof. If, says Désormeaux, "we consider urethritis and the consequent stricture of the urethra as a single affection, whose evolution begins at the moment of contagion, and continues to the organic stricture, we are led to recognize in the progress of this ailment three different epochs, to each of which belongs a particular kind of stricture. The first epoch is that of urethritis, or of the acute inflammatory stricture. The last answers to the confirmed fibrous or inodular stricture. Between these two extremes is an intermediary epoch, which originates in the first and prepares the third." In this middle period he discovered

with the endoscope a localized inflammation with granulations, and named it *granular urethritis*, which is thus the formative stage of true or confirmed stricture, for Dr. Gouley does not agree with Désormeaux in calling the temporary tumefaction caused by the acute inflammation of the first epoch a stricture at all.

Whether this particular (granular) form of urethritis, thus positively demonstrated in certain cases, be an invaluable antecedent of organic stricture, may be questioned, but that it is very common, and that the occasional persistence of this particular feature of the formative stage is a frequent cause of the failure of mechanical treatment, until the inflammation has been cured by the local application of nitrate of silver to the granules there can be no doubt. We think we have seen cases of very rapid formation of strictures to which the exudation of an acute or sub-acute inflammation passed almost suddenly into a condition of semi-organization, causing a thickening and induration of the sub-mucous tissue with consequent contraction, and all this without the development of chronic granular inflammation as an intermediary stage. When we consider the fact that the normal urethra, when not distended, is a *closed* canal, closed too not in the form of a collapsed vein, but with the membrane thrown into longitudinal folds, so that a cross section of the closed canal shows these rugæ as radiating lines meeting or nearly meeting in the centre, it can easily be conceived how slight a process of adhesion taking place in the connective tissue of these folds may rapidly produce a very narrow stricture. Sir Charles Bell adverting to this closure of the urethra in its normal quiescent state, defined a stricture to be that condition of the urethral canal in which it had "lost the power of dilating." This is just what happens when the folds of the membrane are so glued together by the inflammatory exudation as to prevent their unfolding.

Dr. Gouley makes no allusion to false membranes obstructing the urethra, and in point of fact, instances of this are, according to Sir Henry Thompson, "certainly very rare." He cites

the observations of M. Alphonse Guerin, who has carefully examined one hundred cases of diseased urethra after death, of which number about half were affected with stricture. "He has never seen the slightest trace of granulating tissue upon the surface of the mucous membrane; the plastic process has either acted immediately beneath the mucous membrane or in the spongy tissue of the canal." He adds, "that in none of the numerous cases which he has examined has he found *any false membrane on the free surface of the mucous membrane.*"

The enumeration of the symptoms of stricture by our author is brief but graphic, and entirely satisfactory. He reports the following case to illustrate the significance of a chronic urethral discharge in the form of minute flecks or scrolls in the urine which, when examined microscopically, are found to consist mainly of pus, but are mistaken by the patient for semen in the urine:

"CASE.—A gentleman who came to consult me, some years ago, about supposed spermatorrhœa, brought with him a vial of his morning's urine, containing numerous short, thread-like whitish bodies, which he thought were spermatozoa. I placed a drop of the urine upon a glass slide and asked him to look at it through the microscope; he soon felt satisfied that there was no semen in the fluid, and appreciated the real nature of the scrolls when I explained to him that they were layers of pus formed behind a stricture and rolled up by being swept along the urethral walls in the current of urine. Exploration with a bougie-à-boule showed the presence of three strictures, the deepest of which would not admit No 3."

In this connection the author gives a summary of the pathological lesions which occur in consequence of a neglected stricture embracing—First, changes in the canal itself; second, in the prostate; third, in the bladder; fourth, in the ureters; and fifth, in the kidneys, most of which morbid conditions are manifested by unequivocal symptoms, and are of a very serious nature, while their prompt recognition exercises a great influence upon the mode of treatment and the prognosis. The omission,

from this list, of the concomitant affections of the rectum induced by powerful straining—namely, hæmorrhoids and prolapsus ani with inability to prevent the discharge of the contents of the gut, is, doubtless, to be attributed to pure inadvertence, which should be corrected in the next edition. We will add, that in our opinion the author's treatment of this branch of this subject would have been more complete if he had borrowed Sir Henry Thompson's "pathological classification of strictures" into first, simple; second, irritable or sensitive; and third, contractile or recurrent (resilient of Syme) strictures, each of which is distinguished by characteristic features. As a compensation, however, we have to notice the fact that the author calls attention to certain *urinary neuroses* of considerable importance, which are generally overlooked by the other writers, such as "general malaise, constant headache, sleeplessness, great despondency, often suicidal idea, *and all this before the sick man suspects the existence of any urethral lesion other than a slight gleety discharge.*" In addition to such constitutional symptoms, he notes the frequent occurrence of neuralgic pains in the lumbar and hypogastric regions, in the course of the ileo-scrotal, obturator, anterior crural and sciatic nerves. After walking, patients with stricture of the urethra often complain of pain in the heels and soles of the feet, especially on the left side, with an occasional tendency to periodicity, which leads the unwary to attribute them to malaria. "It is a common thing for persons to consult their medical attendants for troublesome and long-standing sciatica, often confined to the left side, with the story that they have been cupped and blistered repeatedly, and have made use of hypodermic injections of morphia, etc., etc., with no lasting relief. Close examination of such cases rarely fails to bring to light some disorder of the urinary organs, the cure or relief of which speedily removes all the existing nervous complications." It should be observed, however, that such manifestations, which the author states were first noticed by Luxmoor in 1809 as symptomatic of stricture, are, however, common to diseases of the neighboring organs in the

male, and especially frequent in the female sex from uterine disease. Finally the author makes mention of the very important observation of his distinguished colleague, Dr. Lewis A. Sayre on reflex paraplegia as caused by strictures, particularly in young subjects with congenital stricture at the *meatus urinarius* and phimosis. In the majority of cases the patient's health may be restored by circumcision and the free division of the stricture.

Chapter II., on the diagnosis of stricture by means of exploration of the canal with the flexible bougie-à-boule, gives also a succinct account of the accidents of catheterism, including also the symptomatology and treatment of urethral fever, and embodies the results of the author's own careful observations and ripe experience. His interpretation of the phenomena of urethral fever, for example, is to our mind far more satisfactory, as being more consistent with the clinical history of typical cases, than the one usually given in surgical text-books with the apparent sanction of Sir Henry Thompson. They say that urethral fever occurs only after the first act of micturition following the application of the irritant, and some have gone so far as to ascribe it to the absorption of septic matter resulting from the presence of urine at the irritated point, though Sir Henry himself only said that "*in many instances* it occurs only after the first act of micturition, etc." Now, Dr. Gouley carefully distinguishes between urethral fever proper and urethral pyæmia, which occasionally follows the former, although it usually occurs quite independently of it, and is marked by *irregular* chills, which should not be confounded with those of urethral fever. Moreover he has shown conclusively, by the citation of typical cases, that the first rigor often occurs before the first act of micturition, or when—the patient having been repeatedly relieved by the catheter—not a drop of urine has come in contact with the canal. He has also shown that it is not always, not even frequently, caused by preëxisting renal disease, although of course he admits that there would be greater danger in such a case, and furthermore that the super-

vening ischuria is not the cause, but the effect of the fever, which is itself due to "*shock* propagated by the sympathetic nervous system, and reäcting upon the blood vascular system." His success in averting urethral fever in numerous cases, in which from the attendant circumstances its occurrence was anticipated, is doubtless due to his careful preparatory treatment of his patients before using means of dilatation, and his very judicious prophylactic treatment after his operations. On both these points, as well as in regard to the details of the operations to be presently referred to, the author's precepts are invaluable. The ordinary surgical practitioner could not follow a more reliable guide.

Chapter III. relates to the constitutional and surgical treatment of stricture, and after an exposition of the principles of constitutional treatment and an enumeration of the various surgical methods now in general use, goes into the details of treatment by "dilatation in simple cases," and the "management of difficult cases." He justly insists upon the importance of constitutional treatment as preparatory to the proper surgical procedures, the object being to remove or counteract any complicating disorder and to improve the patient's general health. In addition to the usual formulary treatment by means of the nightly use of a hot hip-bath for five minutes at a time, and urinary diluents and antacids, he considers the tincture of the chloride of iron an almost indispensable adjuvant. In some cases of chronic urethritis in the deeper part of the canal, attended with seminal weakness, he has obtained excellent results from fifteen drops, three or four times a day, of a mixture of equal parts of the tincture of chloride of iron, wine of ergot, and tincture of cantharides. In cases attended with rigors, he uses at night quinine and Fleming's tincture of aconite, remedies on which he relies in the treatment also of urethral fever, following operations on the urethra. When urinary diluents appear to be indicated for any length of time, he thinks it best to alternate from citrate of potash to Vichy water, and from the latter to a decoction of triticum repens, and back

again to the citrate, as any one of these diluents too long continued is apt to derange the stomach and bowels.

But it is especially in regard to the surgical treatment that the highest merit of this work is exhibited, as it is in the practical management of his cases that the author has achieved some of his greatest triumphs. He has not introduced any new general method of treating strictures, but he has laid down with great clearness and precision the indications and contra-indications for the employment of the several methods in general use, and in several instances he has modified and improved the instruments peculiar to the different methods. He classifies these methods under the following heads: First, pressure and over-distension by sounds and direct applications to the diseased surface; second, dilatation; third, divulsion; fourth, internal urethrotomy; fifth, external perineal urethrotomy; the treatment of strictures by caustics and by electrolysis he mentions only in order to a summary condemnation of them.

After indicating the processes of the first method as applicable to the treatment of stricture in the incipient stage, and recognizing the fact that the second method or that of gradual dilatation *is to be preferred to all others in the great majority of strictures*, and that, moreover, it is finally employed in all the other methods, divulsion, incision, etc., being only preliminary steps to the application of proper dilators, he proceeds to describe the processes of this method, both in simple and difficult cases, such as those with an eccentric orifice, and with a disposition to the formation of a cul-de-sac below such orifice. In the management of these and other kinds of difficult cases, Dr. Gouley has been extremely successful. He employs filiform whalebone bougies, which, though originally used by Dr. Jameson, of Baltimore, in 1827, had never come into general use, and were, we believe, entirely unknown to the Profession in general until they were again invented anew by Dr. Gouley, and applied by him to the treatment of very narrow strictures in general, and especially to the treatment of strictures with eccentric orifices, for which end he gives a spiral form to the

vertical extremity of the bougie, after the example of Leroy D'Etiolles, whose soft bougies, however, often coil up in front of the stricture, and sometimes even double upon themselves, so that the point appears at the meatus, when it was supposed to have passed into the bladder. The whalebone filiform bougies having a good *spring*, are not liable to act in this way, while they adapt themselves admirably to the inflections of the canal, and can be made so small as to enter the narrowest constrictions. Their points retain the bend or twist given them after being dipped into boiling lard oil and then suddenly cooled in water. The mode of using them is as follows: "They are so slender that they can not be properly oiled; it is, therefore, better to fill the urethra with warm benzoated olive oil; then, if the stricture be eccentric, a bougie with Bell's bend is to be introduced, with the point directed toward the floor of the canal, in order to avoid its entering the *lacuna magna*. The direction of the point may be changed as soon as it has got beyond that lacuna, but should it then enter another lacuna, it must be slightly withdrawn, turned aside, and carried onward until it meets the final obstruction. From this moment it becomes an explorer in search of the orifice of the stricture, to find which is not, as has been asserted, 'a mere matter of chance,' but a procedure requiring very light fingers, with great delicacy of touch and much experience and skill. To be sure of entering the mouth of a narrow eccentric stricture, the point of the bougie should be kept in contact with the urethral wall, while a slight to and fro movement is given the instrument until the stricture is entered or the whole circumference of the canal is explored. The instrument should be bent at both ends, but in exactly opposite directions, that the distal may indicate the position of the vesical extremity, and consequently the situation of the stricture. After the bougie has been passed through the stricture, it should be movable back and forth, otherwise it is almost certain that the point is caught in one of Cowper's ducts, in one of the many enlarged lacunæ in the ampulla behind the stricture, in the utriculus, or in one of the ejacula-

tory ducts. At this stage of the proceeding, it is necessary to exercise much caution and gentleness in disengaging the instrument from its faulty position, as any undue force will give rise to a false passage or excite inflammatory action, which may extend to Cowper's gland, or to the testicle: these accidents are just as liable to occur from the use of ordinary capillary-bougies. By withdrawing the instrument a quarter of an inch, or even less, and giving it a slight rotary movement to change the direction of its point, and then pushing it gently onward, the obstacle will be surmounted and the bladder entered, which is known by the freedom of the point of the bougie on repeating the back and forth movement. Having reached the bladder, the bougie serves as a conductor upon which a peculiarly constructed sound is made to glide and dilate the canal, and also straighten it if the stricture happens to be tortuous. This last-named instrument was suggested to me in 1864, and I have since used it very much and with great success. It is a grooved, conical steel sound with a canal one-eighth of an inch in length at the vesical extremity, and with a curve equal to one-fifth the circumference of a circle three and a quarter inches in diamater. The smallest (No. 3) is one and a half millimetres in diameter at the point. I have had larger ones (to No. 15) made to fully dilate strictures complicated with false passages, and have named them *tunnelled sounds*. When a capillary whalebone guide has passed through a tortuous or an eccentric stricture and has entered the bladder, the free end is slipped through the tunnel of the smallest sound, which is carried down to the obstacle, *held in firm contact with it*—precaution being taken to keep the guide in the groove of the staff—and in a few moments the instrument will pass, but no force or undue pressure should be used. It is desirable, after having accomplished this much, to carry on dilatation rapidly, at the same sitting, to four or five higher numbers, to guard against the possibility of retention of urine from too great inflammatory swelling. The stricture should then be treated by gradual dilatation, *and no other method thought of, unless dila-*

tation fails after a thorough trial. In 1869 I adapted the tunnelled principle to the one-eyed English gum catheter, and have used them with much satisfaction and success. The whalebone guide is passed through the vesical extremity which is open and out of the eye. Their use is especially indicated when, after having made a rapid dilatation of a narrow stricture, it is found necessary to retain a catheter for a few hours." Our admiration is equally divided between the surgical skill which could accomplish such results, and the clear and lucid manner in which such delicate manipulations are rendered intelligible by a verbal description.

Chapter IV. describes the treatment of strictures by divulsion, and it is shown that Sir Henry Thompson's so-called dilator causes divulsion as really as Holt's instrument, which has been proved to be generally a perfectly safe means of suddenly splitting the stricture by a longitudinal rent. He further shows that the same end is attained by the successive introduction *at the same sitting* of conical steel sounds of increasing size. In this he is supported by Professor Gross, who, in the latest edition of his great work, "System of Surgery," etc., 1872, says: "Instead of lacerating the tissues with the ordinary form of dilator, I have for several years employed the heavy, conical, nickle-plated steel bougies." These bougies, "by being rapidly inserted, one after another are, according to my experience, far superior to the dilator," etc., etc. We confess that we fail to perceive the force of the reasons assigned by Professor Gross for this sweeping disparagement of other modes of divulsion. We have never used Holt's instrument, but Sir Henry Thompson's, as modified by Dr. Gouley, has proved all that we could desire. Finding this instrument, in its original form, much too large for the treatment of very narrow strictures, Dr. Gouley reduced it in size and tunnelled its vesical end, so that it can be used like his tunnelled sound, with the whalebone filiform guide. He has also caused the blades to be made cylindrical for the first two inches from the point, instead of leaving them flat or guttered, so that the mucous membrane

can not be pinched and torn in withdrawing the divulsor, an accident which he has known to occur, even when the precaution was taken of not entirely closing the blades.

Whatever instrument or method of divulsion be used, "extensive experience has taught the Profession that nothing short of complete divulsion of the stricture will insure success, and that, after all, it amounts to about the same thing as internal urethrotomy; *but it is a safer operation.*" The author, who makes this statement, grants that divulsion is not, as a general rule, to be used in a narrow traumatic stricture, nor in obstructions complicated with extravasation of urine, nor in the dense intractable constrictions of the *pendulous portion* of the urethra, but he asserts that it is known to answer well in nearly all cases of great urgency, when the strictures are situated in the scrotal and perineal portions of the urethra. The soundness of these views has been disputed by those surgeons who resort, in all cases of intractable strictures, to cutting operations; but the author gives good reasons for his faith, the force of which his readers may estimate for themselves by reference to a series of illustrative cases treated by divulsion in his own practice. Of the 32 cases reported in this volume, there were 26 successful results, one failure, and five deaths. Such a statement without explanation would be justly considered very damaging to the credit of the method; but of the five deaths, two occurred at the end of three and a half months, and were not attributable to the operation; one died with suppression of urine, with which he was affected before the operation; one died eight hours after divulsion, but would not probably have lived longer had he been let alone; and one death only was hastened by the operation, pyæmia having ensued, a result which, of course, might have taken place, as it has taken place, after any operation, however insignificant. Dr. Gouley has since performed divulsion in fifty-two (52) additional cases, among which were several complicated with urinary fistulæ, *with only one fatal result.* The operation was done with conical instruments, beginning with small tunnelled sounds with capillary conductors in twenty-six

cases, while in the remainder the tunnelled divulsor with conductor was used. The author adds the expression of his conviction that divulsion possesses great advantages over cutting operations in properly selected cases, and that it will be often resorted to where internal and external division have heretofore been employed; but he admits that it can never entirely supplant these and other methods.

In Chapter V., which treats of internal urethrotomy, and the various instruments devised by himself and others for its safe and easy execution, the author again takes occasion to express his preference for divulsion over internal incision, except when the stricture is in the pendulous portion of the organ, in which case only does he ever now resort to internal urethrotomy. His instrument is an improved tunnelled urethrotome, cutting from before backward, with the aid of the whalebone guide as a conductor. He has operated nineteen times without any grave result, although a serious complication, thrombosis of the left iliac vein with phlegmasia dolens, occurred in a single case.

He speaks favorably of Dr. F. N. Otis' dilating urethrotome for the treatment of cases of stricture of such large calibre that the ordinary methods of treatment by dilatation and divulsion are unavailing. It is claimed by its inventor that "the slightest abnormal encroachment upon the calibre of the urethra, at any point in its course, is sufficient to perpetuate an existing urethral discharge, and even, under favoring conditions, to establish it *de novo* without venereal contact." Dr. Gouley being pleased with this instrument and the results obtained by Dr. Otis, thought that the same principle might be advantageously applied to strictures of smaller calibre, and had a small dilating urethrotome made with Peters' cutting blade (the same as in Dr. Otis' instrument) but with the two lateral dilating springs so arranged that only the constricted portion of the urethra is stretched. Dr. Otis has since still further improved the small dilating urethrotome, and adopted the suggestion of Dr. Gouley as to the expediency of tunnelling the point, so as to

use it on a capillary conductor in cases of false routes. He thinks that the dilating urethrotome may be most advantageously used, also as supplementary to divulsion, and thus the "continued, often uncertain and perilous use of sounds or bougies, now required upon the ordinary operations on strictures be virtually abolished."

In Chapter VI. the author gives minute directions for the treatment of strictures at the meatus; these admit of no other treatment than incision for which purpose the bistouri caché of Civiale, or the much cheaper but equally effective substitutes devised by Dr. Gouley himself may be safely used. He has long been in the habit of performing this simple operation wherever a No. 12 sound could not be introduced without putting the parts upon the stretch and causing pain. The operation is much less painful than the distension of the orifice by a sound. He prefers a free incision a little to one side, so as to avoid splitting the frenum, stopping just short of the hypospadias, to Civiale's plan of a more moderate incision which is to be repeated in a few days.

Chapter VII., on external perineal urethrotomy, is a model of accuracy and clearness of description and of candid and judicious criticism. We have had the good fortune to be present at one of Dr. Gouley's operations by external perineal urethrotomy in a case of traumatic stricture, and we are in a position to bear emphatic testimony both to his ursupassed skill in delicate dissection and to the care with which he attends to all the minutiæ of preparatory and after-treatment. His admitted skill and success in the performance of this difficult and delicate operation would have been to most young surgeons a great temptation to treat all difficult strictures by this method, in lieu of the less brilliant and apparently less complete process of divulsion, but his large experience has satisfied him that the latter comparatively easy and homely method is "much more safe," and this with him is the controlling consideration. The improvements introduced by him consist: First, in the substitution of his bridged catheter staff with eye on the concave side

for Syme's grooved staff. Both the bridge and the convex side of the staff are grooved. This catheter is passed over a whalebone guide previously introduced into the bladder when practicable; second, in entering the urethra in front of the stricture and slitting up the latter from before backward by means of a very small-beaked bistouri somewhat similar to Weber's knife for slitting up the canaliculus lachrymalis. He regards a free external incision from base of scrotum to within half an inch of the margin of the anus as better than a shorter one, inasmuch as the long incision exposes fairly to view the subjacent parts, and tends to prevent subsequent infiltration of urine in the superficial layers. He uses systematically Mr. Avery's excellent contrivance for holding the sides of the divided canal, by means of a loop of silk passed through each edge of the incision, which thus constantly keeps in view the median line. Twice only did he follow Mr. Syme's rule of using the retained catheter, and in both of these cases he is confident that the retention of the catheter was the cause of urethral fever, and in one of them, of the aggravation also of an old cystitis. He adduces the experience of numerous other eminent surgeons as cofirmatory of his own with regard to the inexpediency and occasional danger of the practice of retaining a catheter in the bladder after external perineal urethrotomy. In cases of impassable stricture after the usual external incision down to the urethra, he makes an incision of half an inch in length into the canal immediately in front of the stricture, then insinuates a small grooved probe through the constriction, and finally divides thoroughly the stricture, together with a quarter of an inch of the urethra behind it, with a delicate sharp-pointed bistoury guided by the groove in the probe. The introduction of the probe is facilitated by moderate traction upon the loops of silk passed through the edges of the mucous membrane close to the obstruction which serves to expose well the interior of the canal. He has operated thus without a conductor in fourteen cases, *all terminating favorably*, a result which he ascribes in a good degree to the fact that in most of the cases the orifice

of the stricture was brought into view, and "a clean, free, longitudinal cut made in the median line through the whole constriction."

Our readers will recall the fact that Dr. Mastin, of Mobile, has reported, in a paper published in the March number of this Journal for the current year, eight cases of impassible stricture successfully treated by an operation resembling the old *la boutonniere*, with subcutaneous division of the stricture, and sutures to the wound in the integuments to secure primary adhesion. He incidentally states that the climatic influences of Mobile are unusually favorable to the healing of wounds by immediate union, it being not an infrequent occurence to gain such union after the most extensive operations. We can not think that his method would be in other climates as safe as the method of free incisions and healing by granulations.

Chapter VIII. treats of traumatic strictures, whether from internal or external injuries, and gives in detail the history of sixteen illustrative cases which were treated by external perineal urethrotomy with good results in all but one, which terminated fatally from supervention of erysipelas on the third day, and pyæmia subsequently. In this case a man of intemperate habits suffered a fracture ot the pubes, which was apparently the cause of the injury of the urethra.

Chapter IX. gives an admirable résumé of the means of relieving retention of urine, especially when caused by stricture of the urethra. Of course, if the stricture proves to be impassable, external perineal urethrotomy is enjoined, with the double object of relieving the bladder and curing the stricture. When the stricture is permeable only to a very small gum catheter, the flow of urine will be greatly assisted by attaching to the distal end of the catheter the flexible tube of an aspirator. When the stricture does not admit the passage of any kind of catheter, but does admit a whalebone bougie, this should be used to conduct a grooved steel staff two millimetres in diameter at its point, which is tunnelled for one-eighth of an inch, with which the author aims to effect a little preliminary

dilatation. The staff, as it advances, must follow the guide-bougie until it rests against the face of the stricture; there it will be held firmly, but no force should be used. In a few moments it will probably pass. If it should not, cutting should be resorted to without delay; but if it does, let it be at once replaced by a larger one, after which the evacuating catheter may be introduced in the same way, and the bladder emptied; and then, to prevent a recurrence of retention, which will be certain to ensue from inflammatory swelling, either a soft catheter should be tied in for continuous dilatation, or, as the author generally prefers, he proceeds at once to effect divulsion with his own modified form of Sir Henry Thompson's instrument. In cases of great urgency, if there be any special objection to the immediate performance of the perineal incision, as at night or in the absence of suitable assistants, or the refusal of the patient to submit to a cutting operation, resort may very advantageously be had to puncture of the bladder above the pubes with a capillary trocar, aided by the aspirator. After the bladder is thus relieved, it sometimes happens that an apparently impassable stricture is found to be permeable, the closure being due in part to local spasm, kept up by pressure from behind, and by the irritation caused by the distension of the bladder.

Chapter X. treats of rupture of the urethra with consequent extravasation of urine, urethral fistula, and rupture of the bladder, and includes an analytical summary of seventy-eight cases of rupture of the bladder, borrowed from a very valuable paper of Dr. Stephen Smith, published in the "New York Journal of Medicine" for March, 1851, from which it appears that this accident is but seldom ever caused by stricture of the urethra, and generally results from external violence applied to the hypogastric region when the bladder is full. Only five of the seventy-eight recovered, all the others died.

Chapter XI. treats of acute and chronic prostatitis, and Chapter XII. of hypertrophy of the prostate; the author referring those who desire full particulars respecting the anatomy, physiology, and pathology of the prostate to the excellent works

of Sir Henry Thompson, Messrs. William Coulson and John Adams, Professor Gross, and Messrs. Civiale and Mercier.

In considering the phenomena of chronic prostatitis, he states the difference between the enlargement of the organ attendant on this condition and the more common enlargement of senile hypertrophy, the latter affecting principally the muscular element, while the glandular stricture is more concerned in the former. An exceedingly graphic statement of the symptoms is followed by very sound and judicious advice as to the treatment of this affection, which is often taken for spermatorrhœa, and is a source of great unhappiness and despondency to the subjects of it. There is an equally satisfactory exposition of the surgical history of senile hypertrophy of the prostate, both as to the diagnosis and treatment of the original affection and of its principal effects—namely, chronic cystitis and atony of the bladder. In considering the management of the retention of urine from hypertrophy of the prostate, he endorses the method of facilitating the introduction of a gum catheter, with a contained stylet to suit the case, by introducing the stylet slowly for almost an inch after the instrument has reached the prostatic sinus. The increased curve thus obtained allows the point of the instrument to surmount the obstacle and to enter the bladder on being pushed gently forward. We have, ourselves, several times succeeded with this method, but we have found it usually better not to withdraw the stylet as much as an inch at one time. We are disposed to regard Squire's vertebrated prostatic catheter as a great improvement over any other means of catheterism in cases of enlarged prostate, but this opinion is not based upon personal experience. Dr. Gouley states that he has never used it, but he refers to the favorable testimony of Drs. Squire, Sayre, and Caro. When catheterism is found to be impracticable, immediate relief may and should be procured by suprapubic puncture with capillary trocars, aided by Dieulafoy's aspirator, which method of palliative treatment has been shown by the observation and analysis of a number of cases by M. Labbé to be a perfectly harmless operation,

and that, in a great number of cases, it may, when only once practiced, allow the surgeon to penetrate afterward into the bladder through the natural passages. He further concludes "that in certain cases where catheterism is impossible, the operation in question may be performed three or four times a day without any injurious effect, and thus permit the surgeon to gain time and restore the natural passages; and at the very least, it constitutes a palliative means of the highest importance." As to proposed methods of radical treatment, we must refer our readers to Dr. Gouley's treatise.

Chapters XIII., XIV., and XV., relate to stone in the bladder and its treatment by Lithotripsy, Lithotomy, and Perineal Lithotrity, and although these important topics are discussed in a smaller space than their relative importance would at first seem to demand, yet, on examination, it will, we think, be found that the fact is explained by the author's valuable gift of condensation without sacrificing clearness. All necessary details are succinctly stated, and all the directions proper to be considered in the performance of either of these operations, with their relative indications and counter-indications, are laid down with clearness and precision. His views coïncide in the main with those of Sir Henry Thompson as to relative indications of lithotripsy and lithotomy, but he evidently looks for great results from the new operation of perineal lithotrity for the execution of which he has made a decided improvement on one of the instruments used by Dolbeau of Paris.

In speaking of the pathological effects of stone in the bladder, the author refers to the occasional occurrence of dilatation of the ureters, and also hydro and pyonephrosis. Such cases, he says, are usually hopeless, and *any operative interference will only hasten the fatal issue.* The case of the late deposed Emperor of the French might be referred to as furnishing a striking illustration of the truth of this position. But in view of the facts brought forward by Sir Henry Thompson in justification of the treatment and of the statement in the report signed by himself and other eminent medical gentlemen, that the con-

dition of the ureters and kidneys found at the autopsy, *was not suspected and could not have been detected during life*, we hesitate to accept Dr. Gouley's conclusion without a very considerable qualification. In a clinical lecture, of which an abstract is copied into the "Medical News" of Philadelphia for April, 1873, Sir Henry shows (1) that in cases of dilatation of the ureters with hydronephrosis, there are no urinary casts and no more albumen in the urine than a moderate amount of pus usually present in cases of stone in the bladder will account for, and that a diagnosis by palpation is wholly impracticable; (2) that he has operated several times by lithotripsy with temporary advantage, in cases of genuine Bright's disease, when from the anæmia, prostration, etc., lithotomy would have been entirely out of the question. He believes, moreover, that he has relieved by dilatation several patients with stone in the bladder, when the circumstances of the case rendered it *probable* that the ureters and kidneys were dilated, though there could be no certainty. On the whole, we think he has triumphantly vindicated himself and his associates in that case.

We have sufficiently indicated the high estimate we place on Dr. Gouley's well written book. No practitioner who undertakes the treatment of the diseases of the urinary organs can afford to be without it. It will, we are confident, give him a high position among the recognized authorities in the specialty with which his name has been for some years honorably associated.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

A New Destroyer of the Hair.—Under the above title Dr. Bœttger, in the "Memorabilien," says that we possess a new material, for destruction of hair, of a most suitable description,

in a mixture of one part of crystallized sulphydrate of sodium with three parts of fine carbonate of lime mixed and reduced to a very fine powder. This mixture may be kept any length of time without alteration in well closed bottles. When moistened with a drop of water and laid by means of the back of a knife on the part of the skin covered with hair, we see in a few minutes and find the thickest hair turn into a soft mass, easily removed by means of water. If it remain on the part long it will cause a slight irritation of the skin.—*Ex.*

Treatment of Biliary Calculus by Choleate of Soda.—Schiff admits that these calculi are formed of cholesterin, not because this substance is formed in too great abundance, but because the bile does not contain the principles which maintain it in solution. These are the cholates and choleates of soda and potassa, more than the alkalinity of the bile, which dissolves the cholesterin. Schiff therefore advises the administration of eight grains of choleate of soda, to be given twice daily, and increased until "saturation" is indicated by irregularity of the pulse, which becomes slow during repose and accelerated by the least effort. The dose may then be diminished, but not entirely suspended—a considerable time, a weak at least, being required for the remedy to produce amelioration of the symptoms—*Imparziale and Gaz. Heb.*

A Doctor Gone Mad.—Dr. ——, one of the best accoucheurs of Paris, has been recently confined in the hospital at Charenton. His insanity manifested itself in the most singular manner imaginable. On the 11th of March he was permitted to go to his banker's to collect some money. At the moment the cashier presented his head at the little door of his desk, the Doctor exclaimed, "Bravo! the infant presents by the head!" and, seizing the unhappy cashier by the hair, he pulled most desperately. The cries of the victim brought the employees, and it was with the greatest difficulty that they conducted the Doctor to his house.

A Chicago Physician's Diary of Business.—A pocket-diary

has been picked up in a street of Chicago, and now is in the finder's possession, awaiting its owner. From the following extracts it appears the loser was a medical man of Chicago:

"Kase 230. Mary An Perkins. Bisness, waswoman. Sikness in her hed. Fisik, sum blue pils a soaperifik: age 32. Ped me one dollar, 1 kuarter bogus. Mind get good kuarter and mak her tak mo fisik.

"Kase 231. Tummes Krinks, Bisines, Nirishman. Lives with Pady Malouny what keeps a dray—Siknes, digg in ribs and two blak eys. Fisik, to drink my mixter twict a day of sasiperily bere and jellop, and fish ile, with asifidety to mak it taste fisiky. Rubed his face with kart grese lyniment, aged 39 yers of age. Drinked the mixtur and wuddnt pay me bekaise it tasted nasty, but the mixtur'll work his innards, I reckon.

Kase 232. Old Misses Boggs. Aint got no bisines, but plenty of munny. Siknes awl a humbug. Gav her sum of my celebrated "Dipsefiorikon," which she sed drunk like cole tee—which it was too. Must put sumthin in it to make her feel sik and bad. The Old Womman has got the roks."—*Ex.*

Query.—Did this man graduate at the "Rush," or is he the result of the three years' system?

Female Doctors.—The "Pharmaceutical Journal" quotes the following couplet from the "Nugæ Canoræ Medicæ," where the poet laureate of the Edinburgh New Town Dispensary predicts:

"An when the leddies git degrees,
Depen' upon 't there's nocht 'll please
Till they hae got oor chairs an' fees,
An' there's an en, o' you an me.
For a' that ken that women craiter
Maun own it is her foremost faitur
To tak' to lecturin' by natur';
An' hoo she'll do 't ye sune' ll see."

—*Clinic.*

Miss Dr. Francis A. Rutherford is Fourth Vice-President of the Michigan State Medical Society. She attended the recent session of the State Medical Society at Saginaw City. It is believed that this is the first instance of a woman's holding such

a position in such a Society in this country. Miss Rutherford is a graduate of a Philadelphia Medical College.—*Ex.*

Epitaphs.—Our sterling contemporary, the Edinburgh "Medical Journal," occasionally admits a bit of pleasantry, as witness the following from one of its correspondents:

EPITAPH ON SIR FIELDING OULD, M. D.,

An eminent Midwifery Practitioner in Dublin in the last century.

Sir Fielding Ould was made a Knight.
He should have been a Lord by right;
For then each lady's prayer would be,
"O Lord! good Lord! deliver me."

Female Professional Education.—The new law admitting female students to the full rights of the Zurich University has been recommended by the Cantonal Government for adoption, and the popular vote has been taken on it.—*Ex.*

MEDICAL NEWS.

'Nulla dies sine linea."

More Honor for American Surgeons.—We learn with pleasure that the University of Oxford, England, has recently conferred the Degree of Doctor of Civil Law upon our distinguished fellow-townsman Dr. Samuel D. Gross, Professor of Surgery in the Jefferson Medical College.—*Med. Times.*———It is said that Dr. William Stokes, Regius Professor of Physic in Trinity College, Ireland, and well known in this country as author of a work on the "Diseases of the Heart and Aorta," is about to be made a baronet.—*Med. Times.*———*State Medical Society of Virginia.*—The officers elected for the ensuing year were: President, Dr. Harvey Black; Vice-Presidents, Drs. A. S. Payne, H. Latham, R. K. Burgess. J. H. Claiborne, S. Kennedy, and O. Fairfax. The next meeting is to be held on the second

Tuesday in November, 1873, at Norfolk.—*Ex.*———*Rush Medical College, Chicago.*—Dr. Walter Hay, of Chicago, Ill., has been appointed Adjunct Professor of Principles and Practice of Medicine in the Western Medical Institution.—*Ex.*———*Homœopathic Journalism.*—The editor of "The American Observer" (Homœopathic) states that of the fifty homœopathic periodicals that have been issued by the American press, only nine are now in existence; and of these, only one has remained under the same general editorial management for the space of nine years.———*A Noble Spartan.*—Dr. Francis T. Stribling, Superintendent of the Virginia Western Lunatic Asylum, refuses to accept an increase of his salary, which was recently voted him by the Board of Visitors.—*Ex.*——— *Massachusetts Medical Society.—Expulsion of the Homœopaths.*—The Massachusetts Medical Society, after a protracted investigation and patient hearing of the defendants, have expelled seven of its members for being members of an exclusive medical sect, and advertising themselves as practitioners of a special system of treatment.—*Ex.*———*Cholera.*—This disease is said to be spreading in Russia and India. In the former it is gradually extending from the eastern to the central and western portions. At Moscow it is prevailing in a most malignant form, and a few cases have appeared at St. Petersburg.—*Ex.*———*The "Black Doctor."*—Our readers will remember that some years ago a miserable character, by the name of Vries, calling himself the "Black Doctor," was reported as performing most miraculous cures in Paris, where he created a great sensation. He has just died in great destitution, without leaving money enough to pay his funeral expenses.—*Ex.*———Dr. Charles T. Jackson, the eminent chemist of Boston, has been taken to the Insane Asylum at Somerville, Mass. Dr. Jackson was one of the most important experts in the celebrated trial of Professor Webster for killing Dr. Parkman. It was he who suggested to Morton the use of sulphuric ether as an anæsthetic.—*Ex.*———The Michigan University refuses to teach or tolerate homœopathy.———*Bequests.*—The late Wm. S. Rogers,

of Boston, has bequeathed $50,000 to found a professorship of chemistry in Brown University, to be known as the Newport-Rogers Professorship. The late E. S. Pratt, of Buffalo, has bequeated $10,000 to the Buffalo Hospital, New York. Our contemporary, the "Boston Medical and Surgical Journal" (June 27th), states that a few days ago the treasurer of the Massachusetts General Hospital received the large sum of $446,000, the bequest of the late John Redman.—*Ex.*———Seven pairs of twins are credited to a single family in Pennsylvania, according to the recent census.—*Ex.*———Professor Romberg, the distinguished author of the famous work on "Diseases of the Nervous System," died at Berlin, on June 16th.—*Ex.*——— Cottage Hospitals are being erected in Moscow for the working classes. The various cottages contain 446 beds.—*Gazette des Hop.*, July, 1873.———The Review in this number is contributed by Dr. J. L. Cabell, of Virginia.

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Associate Editors.—It will be noticed that the names of the associate editors have been withdrawn from the title-page of this Journal. In 1868 it was believed that the Journal would be rendered more satisfactory to its supporters by having brought to its aid the influence and strength of those whose names have since appeared on the title-page. The influence and consent of those physicians were accordingly obtained, and their names were duly announced.

It was understood that those occupying such a position were under no obligation to write for the Journal, but it was very reasonably and naturally believed by the editor, that if these gentlemen wrote at all, their communications would very properly and appropriately be sent to this Journal for publication.

Such has not been the case. Journal readers have observed that many of the associate editors, who had accepted and received a distinguished compliment, and who then deriving personally, pecuniarily and professionally the unquestioned benefit of this compliment, were not only not writing for the Journal which had so honored them, but that they were writing for other publications, towards which they occupied no such relations. This spectacle has been quietly observed by all, but by none more than by the editor of this Journal. He has said nothing and written nothing upon this subject; feeling satisfied that these gentlemen had a perfect right to do as they pleased; leaving to him however a right no less perfect to do as he thought not only best, but proper and necessary. While therefore the editor of this work is obliged to the former associate editors of his Journal; while he has no unkind feeling towards any of them; while most of them are his warm friends; still it must be evident to all, that it is not proper to be officially representing as associate editors those whose public acts are such as to render this statement virtually incorrect. It is obtaining strength for this Journal under false pretences. The names of the associate editors are therefore withdrawn. There are conspicuous exceptions to the rule herein stated; for among the associate editors there are those who have worked for the Journal by all means possible, though these gentlemen have been fully equaled in their efforts in behalf of the Journal by many of the subscribers. It would be invidious to give names here; and this will not of course be done. Those who have worked are conscious of their works; and those who have been carried know the value of this carriage to themselves and to their bearer. To all, however, the editor records his thanks for what they have either done or intended to do.

There is now no misunderstanding. The Journal is edited, owned and controlled by one only. He will do as he always has done; endeavor to give his best services to those who are the supporters of his work; very many of them kind and powerful supporters, who by pen or by personal and professional

influence have done more than can be described to secure the rapid success of this Journal. Standing alone, he now more than ever asks their influence and power, pledging himself to give in return the best results with him possible.

It must be confessed, after this official though not personal separation, that there is much compensating comfort in the reflection, that there can be no future misunderstanding on the part of the public as to the benefits to be derived by them from editorial association. There is yet another pleasure in this connection. The example of editorial association furnished by this Journal has been followed by other Journals, and has been made so absolutely ridiculous, that the smallest possible type is now scarcely sufficient to set forth on the title-page the names of those seeking or allowing editorial notoriety. When an editor witnesses such absurdity from the system of nominal editorial association, there is to him naturally an unavoidable pleasure in feeling, that he is not even partially a party to such a farce; that he has saved himself and his friends from irresistible censure and unavoidable ridicule.

Dr. James M. Holloway.—During the past month, the medical and general public of this city have been startled to learn that Dr. Holloway had sent, by his son, to the patient of another physician, an anonymous letter containing printed medical advice. Hearing that the matter had been made public, he sought advice, and was told (by the writer) that if he intended nothing dishonorable, he could reach the public (then fully informed) only by public means. He accordingly published a full confession of all that had been heard; disclaiming dishonorable motives for his act. The Faculty of the Louisville Medical College feeling that their Institution would be injured by this confessed act of one of their colleagues, requested for this reason (and for others, in their judgment sufficient to demand the course adopted by them,) that Dr. Holloway should resign his Chair. This request was, in kindness, informally made; it was rejected. An official paper then, signed by eight-tenths of the Faculty, (one being absent from the city, and one

asking, on account of recent trials, to be excused,) was sent to Dr. Holloway asking that he should resign; the paper setting forth that the request was made to save the interests of the College; nothing being said or insinuated as to his guilt or innocence in connection with reports freely and publicly made. This official request was also rejected, and Dr. Holloway left the city. Nothing more was officially done. The Faculty feel that they have done all that they can officially do, though, of course, their strongest action, personal and professional, has not been yet exercised; an action which, when fully used, must, of course, render all official action comparatively weak and inefficient. There is, manifestly, but one course left for one so situated; it is to spare himself and others pain, by doing what ought to have long since been done; to tender a resignation, which is manifestly unavoidable.

Dr. Holloway has occupied relations to the editor of this Journal too well known to render allusion to them necessary; but the course of the Journal is also too well known to justify any one in anticipating that for any reasons, or in behalf of Dr. Holloway, or any one else, this course can or will be altered. Many think otherwise. Time must be the test, and time will be the vindicator.

Explanation.—The July number was detained much beyond the usual time of issue, because it contained at least fifty more pages than usual; or was nearly one-half larger than the ordinary size of the Journal. This entailed serious expense to the editor, but was of much advantage to the supporters of the work; whose only outlay was that of patience in waiting for its delivery. Whenever the Journal is delayed, the cause is always that herein described; and it is hoped that the subscribers will always feel, when any delay occurs in the issue of the work, that they will be correspondingly benefited. It is due to all those executing the work, to state, that delay is not the result of any deficiency on their part; as they are almost always prompt, energetic, and efficient.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. SEPTEMBER, 1873. No. 3.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—FOUR CASES OF THE WORST VARIETY OF STRICTURES OF THE URETHRA RELIEVED BY INTERNAL URETHROTOMY. By C. H. MASTIN, M. D., Mobile, Ala.

In the March issue of this Journal there appeared a paper entitled "A New Method of Treating Strictures of the Urethra after External Sections." Notwithstanding the very remarkable success which had attended the ten cases therein published, the writer of that paper took the ground that the operation of "External Section" or "External Urethrotomy," was only called for in those very exceptional cases of stricture which were impermeable, or impassable; where it was not possible to pass an instrument through the coärctation; that in those cases where a conducting guide *can be passed*, which is always an essential pre-requisite to Mr. Syme's operation, *there is no necessity or propriety of subjecting the patient to the hazard of an external operation!* I endeavored to make that position tenable by showing that in the operation of Mr. Syme, so-called, it is

essential first to pass a guide-rod or conductor through the obstruction, and then to open the urethra posterior to the stricture, and carry the incision from behind forwards through the diseased structure. It must be obvious to every one that if it is possible to pass the small guide-rod or director of a small staff through the opening in the stricture previous to the operation by an External Section, which Mr. Syme asserts is always the case, as "no stricture is impervious"; then also must it be as possible and equally facile to pass the conducting-rod or guide of an internal urethrotome, and thus be enabled to perform a simpler and safer operation in the form of an internal section, and one which will furnish to us as good, if not better results, than the more difficult and infinitely more dangerous operation of External Urethrotomy. There are cases, however, cases which I am free to admit require, and for the relief of which I advocate the external operation; they are those cases where no entrance can be made into the bladder through the stricture; "cases where the urethra remains absolutely impervious, letting in no catheter, letting out no urine;" cases in which there exists an imperative necessity, for speedy relief, yet where the constitution of the patient has not become so exhausted but that he can go through the stage of confinement and shock incident to the operation of External Section; in such cases I then, as now, advocated the old operation of l'boutonnière, an external section which, in my opinion, is not only much safer (although more difficult to perform), but infinitely more preferable than the operation which is peculiar to Mr. Syme!

I now propose, in illustration of those views, to furnish you the notes of a few cases, which are typical of the points advocated in the article referred to. They are cases of special interest in their history, and are valuable as showing the results of the operations which were performed upon them, in contra, to the treatment through which they had passed—viz., cauterization, dilatation continuous or vital, gradual or temporary, or forced; and also the "immediate operation by rupture" of Mr. Holt.

These cases are given to substantiate the assertion which I make, that those strictures which require an external operation are not such as admit the passage of an instrument, but those which are absolutely closed, and through which no urine and no instrument can be made to pass, and that not always even in those cases where the urethra is absolutely closed—a perfect cul-de-sac—must we resort to an external operation, *unless* the condition of the patient is such as will warrant the opinion that he can sustain the prolonged confinement, together with the shock, which is generally incident to this operation. It is not my intention to enter into a professional controversy upon the merits or demerits of External or Internal Urethrotomy, but more especially to guard the general practitioner, who may only now and then be called to aggravated cases of this sort, from falling into the error of being led away by the doctrines which are so often promulgated in some of the concise works upon this subject, and which, unfortunately, for the reputation of their authors, or the good of those who suffer from the disease in question, prove to be only the peculiar views entertained by the special author himself, as illustrating the variety of operations which he may have performed.

In reporting these cases, which are only a few, selected from a large list of like operations, it is not my wish or intention that any comparison should be drawn between the success of the operations as done by myself and the result of their past treatment; I only use them to illustrate the fact, that cases in which absolute retention has taken place, or even those in which the urethra has been closed to a "cul-de-sac," and which, under the rules laid down by Mr. Syme and the advocates of his operation, would have been submitted to an external operation or a paracentesis of the bladder, *can be relieved* by the least dangerous of all the cutting operations—viz., "Internal Urethrotomy."

CASE I.—J. A. D., aged thirty-four, of good appearance, robust in form, and easy in his habits of life, a young gentleman of this city, had been suffering from stricture of the

urethra since he was eighteen years of age. The outlines of the history of his case are briefly as follows: In 1855 he contracted a gonorrhœa, was treated with very strong injections of nitrate of silver, upon the abortive plan; he recovered apparently in a very few days, and had no trouble for several months, when he began to notice a diminution in his stream of urine; this led him again to consult his medical adviser, who opened his stricture by the method of gradual dilatation with soft gum bougies, by which means he was for a time relieved, and got along with very little discomfort, except now and then a new case of gonorrhœa, and once or twice an attack of orchitis, which he attributed to the use of caustic injections, which he had again resorted to for the cure of his blenorrhagias. With the progress of time and the repeated injections of the nitrate of silver, his stricture grew more dense, the frequent attacks of gonorrhœa tended to increase the deposit of retractile tissue, and the coärctation became so troublesome that in 1864 he was forced to take some steps to gain relief. With this end in view, he visited New York city and placed himself under the care of a physician, who treated him for seven months by the method of temporary dilatation, using soft bougies; yet during this long period he failed to open the stricture larger than a No. 9 English catheter; as all difficulty in passing his urine had ceased, he fancied himself cured, and returned South; the relief proved to be, like the method employed, only temporary; for in 1865, just one year afterwards, the urethra had closed almost entirely, and he was forced again to seek medical aid. This time he selected a physician in New Orleans, in which city he was then residing, and placed himself under his care and treatment; it was now impossible to introduce any instrument larger than a No. 1 English bougie; with this sound the treatment was again commenced, and during six weeks ensuing, resort was had to gradual and temporary dilatation; the stricture was opened by soft bougies until a No. 12 silver catheter could be passed, when his adviser, upon the principle of "*continuous dilatation*," tied in the silver catheter as a retained sound for

121 hours; after which he discharged the case as cured. But the end was not here; he was destined to undergo another long siege of dilatation, and that too with but little hope of any permanent relief, for by the end of the year 1867 his stricture had again closed up, and he now experienced the greatest difficulty in passing his urine. He sought relief from another physician, who was then unable to pass into the bladder a No. 1 English catheter. Nothing daunted, he began the treatment with conical silver catheters, and day by day pushed on, until he had opened the stricture sufficiently large to admit the blades of a Holt's dilator, between which he *gently*, and without force, pressed in the smaller staff of the set, which equals a No. 10 sound; beyond this calibre the urethra was not opened, and he was permitted to remain without further instrumental interference, as he could now pass his urine without difficulty; he was, however, kept under the observation of his physician, who occasionally introduced his "Holt" and pressed up the No. 10 staff; but this course of proceeding did not cure the stricture; instead of doing good, to all intents and purposes it did harm, it but increased and kept up the tendency to the deposit of retractile tissue, and from the constant irritation of the instrument the stricture grew denser, and continued to contract, until it finally closed up entirely, as the future of the case will show. Such are the brief points of his instrumental history, beyond which I do not deem it necessary, or even proper, to enter into the details of the case, as it is not my purpose, nor have I the disposition to question the propriety of the course through which he had passed. I shall be content with giving the facts as to his condition when I was called to visit and take charge of his case on the 17th of January, 1873, and to show the line of treatment to which I resorted, with the satisfactory results which marked the termination of the same.

He had now been confined to his room, and the greater portion of the time to his bed, for four weeks; his bladder was filled with putrid urine; his bed and clothing saturated from the constant "overflow of urine," which had been going on for weeks and

months past. His urethra was so far closed that it was with the greatest difficulty, after a prolonged effort, I could introduce the smallest whalebone probe one-third of a millimetre in size. He was then in a partially comatose condition, having had during the night before active convulsions; the accumulation of urine was so great, and the bladder distended to such a degree that the walls of his abdomen were as prominent as a woman's in the latter months of pregnancy. For over twelve hours past he had been unable to discharge a drop of urine; for two long days and nights he had rolled in the most intense agony, gaining only momentary relief by the use of hot baths, fomentations, and opium, which enabled him to drip out a gill or two of thick muddy urine, until at length tired nature sank, exhausted, and he was in the condition described when I entered his room. For weeks and months gone by he had been troubled with a constant stillicidium of urine, which saturated his clothes by day and his couch by night, rendering him an object of pity to all who were thrown with him. This overflow of urine, (I use the term *overflow* in contradistinction to incontinence) had not relieved his distended bladder, for it was but the excess which dribbled and left the bladder full of putrid urine; not having been entirely emptied for months past, the consequent absorption was now manifesting itself upon his overtaxed nervous system. His condition was a most pitiable one, only to be appreciated by those who have been witness to a patient suffering from all the horrors of a confirmed case of stricture with retention. No time was to be lost, but energy and activity were required for his succor and safety; there was one of three points to be made, by which he was to be rescued from a certain death.

The first indication was to relieve him by tapping the bladder, and treating the stricture afterwards.

The second was to attack the stricture by External Urethrotomy, and thus relieve the bladder of its urine by the same operation which was to cure the stricture.

The third was Internal Urethrotomy, from which the same

ends were to be attained, and at much less risk to the life of the patient, with equal if not more certain results as to the cure of the case.

I was unwilling to resort to a paracentesis of the bladder, simply because it is an unsatisfactory operation, and one which has not afforded results equal to the risk of the same. I consider it a bad operation, not sustained by sound surgical principles, one which is fast going out of vogue, and destined before long to become only a thing of the past.

External Urethrotomy to be performed upon a man in his condition I considered not free from danger, and utterly out of the question, so long as there remained an opening through the stricture, into which I could pass even so small an instrument as a probe one-third of a millimetre in diameter. Nothing was then left me but an internal operation, which, without further delay, I determined to perform, as the operation which afforded the best, and, in my judgment, the only hope of success; with what result the sequel will show. To this end, after having stretched open the mouth of the stricture (which was located just in advance of the bulb, very firm and dense in its structure) with a whalebone bougie of the smallest size, so that I could pass the smaller filliform which belongs to Maisonneuve's urethrotome, I was enabled by care and patience to work in the staff of the same, after which nothing remained but to push home the blade, and the operation was done. An exploration revealed the existence of two strictures, the first midway in the second region, extending nearly to the bulb, the second just at the junction of the bulba and membranous urethras, in fact, it was almost a continuation of the first. A No. 12 gum catheter was now easily introduced and the bladder emptied; after which the urethra was explored with a full-size bougie à boule, which revealed some contracted spots, which were then cut by a Civiale's retrograde urethrotome, a No. 12 gum catheter as a "sonde à demeure" retained for twenty-four hours. The usual after-treatment was pursued, and in the course of a week the scale of a Benique was passed to its highest

point—viz., No. 54, which equals a 17 English bougie. He was furnished with steel sounds, which ran to the full number of the Benique scale, and directed to use them at stated periods. Every unpleasant symptom has passed away; the ball-probe detects no abnormal contraction of the urethra, his general health has in a very great measure improved, the dilatation which was so prominent in the perineum has almost entirely recontracted, the stillicidium of urine which had been so very troublesome, and which continued for a month after the operation, owing to the weakness and relaxation of the urethra and bladder, together with the dilatation of the membranous urethra, in the pouch of which the urine had continued to settle, has now entirely ceased, and nothing remains to contradict the assertion that he is entirely well; that is, so far well as a patient can be cured of an organic stricture; it now remains with himself, by the constant use of his sounds, to preserve his condition as it now is, thus avoiding the future closing of the stricture.

CASE II.—B. F., an old and well-known gentleman of this city, aged sixty-seven years, had been the victim of a bad stricture for over thirty years, for the cure of which he had resorted to gradual dilatation and the use of caustics. His stricture was located at the junction of the first and second region, and becoming very close at the bulb. On two occasions he had suffered from retention to a partial degree, for the relief of which he had been treated in New Orleans by caustics (I presume, from his description, "caustic potash)." Temporary relief was afforded him, as he passed a stream of urine sufficient to relieve his distended bladder, and for comfort. However, in the month of September, 1872, he was taken with an attack of fever, which he said followed some indiscretion in diet, and he became very ill; being of small ideas in his professional belief, he called in one of the followers of Hahnemann, who diagnosed his disease to be "congestive bilious fever," and at once set to work upon him with his drug-atoms, and decillionth dilutions, which had as little effect upon his condition as would the

term "homœopathia" written in the same cabalistic form as the old charm "abracadabra," and hung around his neck, or elsewhere. In spite of all this he rapidly grew worse, until the day upon which I was called to visit him—viz., 11th of September. I found him in a semi-comatose state, pupils contracted to the size of a small shot, and that too in spite of the scape-goat belladonna, which "little pills" had been pushed into him. Singultus and subsultus prominent, the room impregnated with the odor of urine, shirt, drawers, and bed saturated from the constant "overflow of urine"; a glance was sufficient to satisfy the most casual observer as to the nature of the case before him. I learned upon inquiry that for eight days past he had been unable to void his urine naturally; that he had strained in vain to get out a few drops, when a rigor would come on, and as quickly be followed by thirst and fever, which subsided, only to be succeeded by another rigor and another fever, until he sank exhausted into the condition in which I found him, and against which the unavailing efforts of his homœopathic adviser had proved futile. Inspection of his case revealed a bladder filled with urine, and he fast sinking under the effects of uræmic poisoning. There was but one clear indication present, and that was to empty his bladder and brace up his system against the sure approach of death. Making an examination of the urethral canal, I at once detected the stricture, located as above described, but I was unable to pass even the smallest instrument into the bladder, after over two hours vain and ineffectual efforts, with a probe one-third of a millimetre, which I used with great gentleness, and which was "sufficiently small and properly guided," I could not even "insinuate it" through the coärctation. What was to be done? My patient was an old man, the victim of a long-standing organic stricture, life was fast ebbing away, and every demand made for prompt and efficient action. The question comes up, Shall I tap this bladder, and treat the stricture afterwards? No! was the instinctive reply, for he will either die from the shock or be worn out before the wound in the bladder

heals, or before the stricture can be relieved. Will the aspirator be of use here? No! for its action is too slow, and we have not the time to spare. Shall I do an External Section? The same objections obtain here as to the operation of paracentesis. He is too far gone to trust to the external operation; to run the risk of shock or the prolonged after-treatment. The stricture is impervious, Mr. Syme's operation is impracticable, and l' boutonnière is the only one which can be performed, unless that of forced catheterization, which is as difficult, more violent, and infinitely more uncertain than the operation by internal incision, and that to be performed in the axis of the urethra, from before backwards, and without a guide. To this end I at once made up my mind to carry the blade of my urethrotome, which is a modification of the Stafford instrument, *through the stricture*, guided alone by my knowledge of the anatomy of the urethra by the exercise of great care I succeeded in opening the stricture large enough to admit the beak of my "catheter-urethrotome," when with ease and rapidity the blade was passed into the bladder, and the operation finished. A retained catheter for twenty-four hours so softened up the stricture that there was no difficulty in running up the scale to the highest point necessary—viz., 54 Benique. So soon as the urine was drawn from the bladder, he was put upon iced champagne, soups, and stimulants, and soon began to recuperate and grow stronger, when under the use of wine, iron, quinine, and a rational course of treatment, usual in these cases, he made good his recovery by the first of October, and was discharged, satisfied to keep up the use of his sound once each week, and in the future not trust the use of infinitesimal remedies in "congestive fever," when an organic stricture is at the base of "two or three chills each day, and a *complete suppression of urine* (?) the consequence."

At this writing, near a year after the operation, my old friend continues to be perfectly well, and tells me he enjoys better health than he has done in many years. I failed to mention in the notes of his case that he passed via his urethra, about

a month after the operation, a stone fully as large as a small buck-shot; he had no symptoms previous to its discharge to indicate that any foreign body was in the bladder.

CASE III.—C. F. G., a young gentleman, aged twenty-one, in general good health, but had been suffering for eight or nine years with some trouble about the genito-urinary system, which proved to be stricture, located at the bulb; within the past four or five years he had been under the care of physicians in his native State, who had been unable to introduce any instrument through his stricture. On two or more occasions he had suffered from retention of urine, and his general health was beginning to suffer from the irritation induced by the presence of the stricture. This case was placed in my hands for treatment by an accomplished physician of Macon, Ga., Dr. W. Holt, under whose care he had more recently been treated. When he reached Mobile, in 1873, I found very great difficulty in passing a whalebone bougie one-third of a millimetre in diameter; there were several false passages in front of the stricture and a considerable dilatation of the urethra in the membranous portion. Having succeeded in passing a probe through the stricture, in the course of four days I had opened the coärctation large enough to admit the staff of Maisonneuve's urethrotome, and it was then an easy matter to incise the stricture throughout its entire length. This was at once accordingly done, and the urethra opened to its full size. No. 46 Benique sound being passed with ease, the stricture was cut in its upper portion, a Maisonneuve's staff grooved in its concave surface being used. Upon examination with a bougie, after the section of the stricture was made, a stone was found impacted in the floor of the urethra, just at the junction of the membranous and prostatic portions, which was easily removed through the urethra, *after* it was fully dilated. This had doubtless been formed from the urine which was constantly stagnant in the dilated pouch of the membranous portion; it was about twice the size of a grain of coffee, and as it was not possible for it to have passed along the canal of the urethra until the stricture

was opened, it was a fortunate circumstance that it was so easily removed after the stricture was dilated, as it would in all probbility have been pushed backward into the bladder by the bougie, and become, as it would have done, the foundation of a large stone. No bad symptom followed the operation, and on the seventh day after the operation I was unable to detect by the most rigid investigation with the ball-probe any remains of the stricture. He was furnished with the steel sounds up to No. 54 Benique scale, which he was advised to use at stated periods, and he left for home on the eighth day after his arrival in Mobile, perfectly well. He came to Mobile on the 22d of April with an almost impassable stricture, to have the external operation performed; he left here on the 29th of the same month, having been entirely relieved by *Internal Urethrotomy.* Letters of recent date inform me that he is perfectly relieved, and enjoying better health than for years past.

From the nature of this case, the dense deposit of retractile tissue around the urethra and perineum, the external operation would doubtless have been resorted to by the majority of surgeons, who incline to the views and teachings of Mr. Syme. The result of the operation performed illustrates that even the worst class of close, hard strictures can be relieved by a less dangerous and much easier operation than a perineal or external section.

CASE IV.—Mr. J. L. P., aged thirty-six, sanguine, nervous temperament, has been suffering from stricture for about twelve years. In 1866 an abscess formed near the junction of the scrotum with the perineum, which was opened, and ever afterwards the urine continued to pass through the fistule, which was the result of this abscess. He was from time to time under the charge of first one and then another physician, who tried in vain to pass an instrument into the bladder. No introduction was effected, and his health continued to fail. He was placed in my charge by my friends, Drs. J. Fremon and Michel, of Montgomery, Ala., and sent to Mobile for treatment in April of the present year (1873). Examining his case care-

fully, I found the urethra completely closed into a cul-de-sac, at four and a half inches from the meatus; there were six fistules involving the scrotum and perineum, with a dense mass of innodular tissue surrounding the urethra from the scrotum to the anal opening; all his urine passed through the fistules, and his constitution was very much impaired from the absorption of urea and the irritation consequent upon the continued formation of abscesses. He was completely broken down in health and spirits, reduced in flesh, until his weight was only ninety-six pounds. In his then condition I saw it would not be safe or prudent to subject him to any operation, and determined to place him upon a course of treatment by which his general health would be in a measure built up, before resorting to an operation for the cure of the stricture; with this view I placed him upon iron and quinine, good diet, and gentle exercise. He returned to Montgomery and remained until June, at which time he again came to Mobile, and demanded an operation. I found that very little improvement had taken place in his condition; the hot weather had told upon his already weakened body, and I thought his case almost a hopeless one; still as there was nothing left for him save an operation, I determined to give him what little chances remained. I was convinced that an external operation was the one most easy to be performed, but I well knew that in the condition of his perineum, so thickened and diseased as it was, that I could not hope to gain union by first intention, and that to do that operation, I would be forced to leave the wound open, to heal by granulation; his exhausted state would not permit the long and tedious confinement through the hot months of July and August in this climate, which would be necessary to effect a cure. Consulting the safety of my patient and the success of my operation, I at once determined to open his stricture in the axis of the urethra, and to cut through this dense mass of tissue in the canal, and thus by an internal operation to gain entrance into the bladder. It was a desperate alternative, yet one which I thought was possible to be accomplished, if pursued with caution and guided

by a thorough knowledge of the urethral direction. To this end, assisted by my friends, Drs. Hamilton, Hall, Moses, and Crampton, with my patient under the influence of ether (which in his particular case I preferred to chloroform), I began the operation by introducing my urethrotome, which is made somewhat after the instrument of Stafford, the blade passing from the point of the canula. With this I slowly cut through the course of the urethra until I had passed solid tissue for two inches. The operation was a prolonged one, and exhausted my patient very much. The bladder was now entered by the staff of the urethrotome, but owing to the dense tissue through which the opening had been made, and the thickening of the entire perineum, I was unable to bring down the handle of the staff or to retain a catheter in the bladder *inclined sufficiently* to allow the urine to drain off. Having opened the urethra freely, I determined to allow the case to rest for a few days and see what the result would be. He was placed upon quinine and iron, with hot hip-baths, as is usual in these cases, and to my astonishment he rapidly recovered from the shock of the operation; no rigor nor unpleasant consequences followed. The urine continued to pass as before through the fistules, yet he was now able to propel a small stream through the entire urethra. His general health is improving, and the retractile tissue softening, so I determined to let the case alone until he should be in a condition for me to finish the operation. In the meantime, I did not pass any instrument, but left the case to entire rest. Three weeks after the operation, I found that I could pass with some difficulty into his bladder the staff of Maisonneuve's urethrotome, guided by the smallest of his set of filliform bougies. I at once determined to drive in the largest blade of the urethrotome and follow it up by opening the strictured part now cut with the largest staff of Voillemier's divulsor; this being done, I passed in with ease and retained a full size gum catheter, which I was now enabled to dispose of to the right or left side at pleasure, for the purpose of draining off the urine, the thickened tissue being now so much softened that

it offered few if any obstacles to the retained sound. Twenty-four hours after he continued comfortable, the urine had all passed through the catheter, and the fistules remained dry. He had had no rigor, nor any unpleasant symptoms of any sort, and expressed himself as feeling far more comfortable than for years past. The catheter was now removed, and is only introduced when necessary to draw off the urine; the fistules are healing, because no water is permitted to enter them, and with this course of drawing off the water at every call to micturate, his cure must and will be perfectly accomplished. He will use for six weeks or two months, or until these fistules are perfectly healed, his catheter at every call to pass his urine; and then, as in all cases of stricture, he will continue, at stated periods, the use of the bougie, which he has been furnished with, and which is suited to the size of his urethra. This he will do to avoid a closure of his urethra, and it will be necessary to use it for years to come. He passes a sound, No. 52, Beneque, equal to a No 15 English bougie, and on the 26th of July he returned to his home.

I do not deem it necessary to add anything in the way of argument to prove the position which I have taken in reference to the merits of the two operations. I can only reiterate what I have said before, that when it is possible to perform an internal section, that I shall always consider it a much safer and better operation than the external; and so long as I can bring to bear such cases as the above to sustain my assertion as to the merits of an operation, I am then perfectly willing to be classed as one of "those extremists who assert that permeability to instruments necessarily contraindicates the operation"; although I may not meet the support of a certain class of writers who seem to be equally wedded to another operation, against which the authority of some of the soundest surgical writers of the age stands opposed.

ART. II. — THERAPEUTIC ACTION OF MERCURY. By C. H. SPILMAN, M. D., Harrodsburg, Ky. [Read before the Medical Association of Central Kentucky.]

It is probable that mercury, in its metallic state, is destitute of all action, except what depends upon its mechanical properties. In its diversified chemical compounds, however, no substance in nature exerts so great a variety of actions on the animal body. So diversified are its effects, under the varying circumstances of disease; and so true is it, that it is found to meet indications diametrically opposite, it is a curious fact that its claims to the appellation of a cathartic and an astringent are about evenly balanced. Hence, while we find it placed at the head of cathartics by a distinguished American therapeutist, in his work on Materia Medica, in 1832, in one of the London hospitals, Dr. Burnett administered calomel in ʒij doses, which promptly arrested the vomiting and diarrhœa in epidemic cholera; and its success in controlling diarrhœa, in minute doses, is familiar to every practitioner.

This disparity in the action of mercury, under the varying circumstances of disease, is doubtless owing to the peculiar state of the properties of life, which counteracts its cathartic effect, and affords pretty satisfactory proof that it is in its alterative and not its purgative properties that its remedial agency consists. This fact admonishes us of the importance of a clear understanding of its remedial virtues, and its doses in relation to diseased conditions. Nor should we ignore the fact, that no class of remedies, save, perhaps, bloodletting and tartarized antimony, reach more profoundly diseased conditions, or will so often turn them to health when wisely employed; also, on the contrary, so capable of inflicting injury, if not adapted to the case.

Although the different preparations of mercury produce effects which distinguish them from each other, this difference is rather in degree than in kind; and not having time to consider all its preparations in detail, of the three which are in most common use we shall restrict ourself chiefly to calomel

as the representative of the class, because more active, rapid and strongly pronounced in its effects than the others.

We can not present an exposition of a subject on which such a variety of opinion exists as the therapeutic action of mercury, that will be satisfactory to our own views, or commend itself to your judgment without premising some general propositions relative to the philosophy of the laws of life and the powers by which living beings are governed, as contra-distinguished from those of inorganic nature.

We remark, firstly, that no agent, whether natural, morbific, or remedial, acts directly on the structures of the body; that life is a distinct entity, coëxistent with, and appertaining to, organic beings; that all impressions, whether healthful or morbid, are made upon the properties of life; that all organic actions are carried on by these properties through their instruments of action; that all disease consists in a modification of these properties, and a consequent change in the functions over which they preside; and that all remedial agents have, for their object, a restoration of these properties to their natural type.

We remark further, that no remedial measures are capable of transmuting disease into healthy conditions; this being alone the work of nature, and the artificial cure consisting in so modifying the already morbidly altered properties, as to enable them to obey their natural tendency to a state of health; that every organ of the body, and indeed every tissue, possesses a special modification of the vital properties; that every morbific cause possesses special virtues; that morbific agents determine disease upon one organ or another, according to the particular virtues of the agent, and also in accordance with the natural modification of each part; that remedial as well as morbific agents possess special virtues and determine a salutary change upon one organ or another, according to the special virtues of the agent, and also in accordance with the vital susceptibilities of the part morbidly affected; that the susceptibility of a part to the action of remedies is greatly increased by disease; that all

remedial agents are morbific, in a degree, though more transient and less profound in their effects than the truly morbific agents; and cure simply by bringing into sensible operation the great law of recuperation, by producing upon the diseased properties of life such alterations as are favorable to its development; that such is the relation between vital stimuli and the properties of life. Agents that are powerfully remediable in disease are not unfrequently inert or deleterious in health.

These are laws relating to living organic beings as contra-distinguished from those of inorganic nature, a reference to which may aid us in our efforts to comprehend the *modus operandi* of any given agent on the vital economy.

As we remarked above, there is no agent, if we except bloodletting and tartarized antimony, that reaches more profoundly diseased conditions; and perhaps none that meets so great a variety of indications as mercury. We believe no man who does not recognize its potency and value ought to be accredited, or is prepared faithfully and conscientiously to fulfill his mission as a professor of the "healing art." While this is true, we say at the same time it is a two-edged sword, and its power for good constitutes its liability to abuse, which has rendered it a fruitful source of evil, and brought upon it great disrepute. And we may add that an ignorance of the philosophy of its operation, and its misapplication and abuse resulting from that ignorance, is the whole secret of the origin of medical imposture.

While it may be affirmed, in a general sense, that all remedial agents are alteratives, since it is in virtue of the alterations they produce in the properties of life, that they are enabled to take on the recuperative process; yet, from its gradual, permanent, eminently revolutionizing effect, mercury is specially entitled to that designation.

The salient points in this discussion concern,

1st. The special virtues of mercury as a medicinal agent.

2d. The particular pathological conditions to which it stands therapeutically related.

Calomel, which we propose to consider in this discussion as the most fitting representative of the class, is irritant, alterative, cathartic, or astringent, just as it stands related to any given vital condition.

It is a fundamental law in human physiology, that every organ of the body has a special vital endowment; that a general coïncidence exists between the natural susceptibilities of the vital properties, in each part, to their appropriate stimuli, not excepting morbific and remedial agents; the influences produced conforming to the existing modification of these properties and special virtues of the agents. These differences in the vital constitution of the several parts of the organism, and coïncidence of each part with special vital stimuli, internal and external, is a subject of inquiry, no less practically important than curious to the physician, an intimate knowledge of which distinguishes the medical philosopher from the charlatan.

The philosophy of this subject is strikingly exemplified in the dissimilarity of the products secreted by the different surfaces of the body from *one homogeneous fluid*, and their toxical effects upon all parts, except those to which they stand virtually related. By a law of vital adaptation, bile is the natural stimulus of the intestines, but injurious to other parts. Venous blood imparts a healthful excitation to the veins, but is speedily fatal within the arteries. Urine is the natural stimulus of the bladder, but excoriates all other parts. In this relative sense, man may be said to be filled with poisons, each one of which, however, in its proper place, is not only innoxious but indispensable. "This great law of adaptation is so universal as to extend throughout the whole domain of medicine, reaching as far into pathology and therapeutics as it is conspicuous in physiology." It concerns the capabilities of remedial agents, and the special pathological conditions to which they stand related. Its highest practical attainment is the highest consummation of medical skill. And we are free to admit, that with forty years' eager search, while we hope we have made some progress, it yet remains the goal of our ambition.

Calomel, in virtue of the relation it bears to the animal economy, has a special direction to the glandular system, and especially the liver. We know this well established therapeutical fact has been called in question, in modern times, by the unscientific and delusive experiments of a few superficial thinkers and wild speculatists. The objections, however, when analyzed and examined in the light of well established physiological principles are worthless, because predicated of experiments made upon man in a state of health, and upon animals. We are opposed to the deductions drawn from these experiments, the therapeutical *axiom* that disease greatly exalts the susceptibility of an organ to the action of remedial agents; and a remedy which rapidly cures disease may be either inert or morbific, if administered in a state of health; and the few instances in which experiments were made upon the human subject, prove nothing as to the remedial action of mercury in disease. And coming to those examples in which animals were the subject of experiment, they only excite our astonishment, that men of science could have imagined their applicability, in any sense, to the profound problems of human maladies. The well known differences in constitution and vital susceptibilities alone, are conclusive against such analogies.

With these physiological facts before us, suppose the experimenter failed to obtain an increased secretion from the liver of a healthy human subject, and suppose him equally unsuccessful in his experiments upon animals, the deduction cannot be admitted, on the ground of analogy, for it is not claimed that mercury exercises a specific control over the liver of a healthy human subject, or that of animals. We see not one solitary fact elicited by these experiments that throws a ray of light on the proposition, for the elucidation of which they were instituted. The whole philosophy is vitiated by the unsoundness of the premises, and the conclusions arrived at rest on the distortions of nature. We cannot consent, therefore, although these scientific men have been infatuated by its illusory and seductive nature, until cheated out of their understanding, to be led

astray by such glaring sophistry; but must be permitted to yield to those sounder inductions, to which an unbroken series of facts, piled up, through observation and experience in the school of nature irresistibly conduct us.

As to the *modus operandi* of mercury in the cure of disease, we have entertained but little doubt for a number of years; and yet there are probably those in this presence who will join issue with us on this point.

When administered internally, its first curative impression is on the stomach and duodenum. From these parts powerful reflex nervous actions radiate over the entire system, though more so upon some organs than upon others, just as it is closer related to their morbid condition. Its effects are most strongly pronounced in some of the glandular organs, especially the liver. Hence it is peculiarly suited to diseases in which this viscus is deeply implicated.

The critical observer of disease, and its therapeutical relationships, will have variously seen, that the susceptibility of organs to the action of remedies, is not only increased by disease, but greatly influenced by their condition; and as calomel is the great provocative of glandular secretion, it is sometimes a nice point to determine, in advance, as to its appropriate relation to any given disease. There is a degree of vascular excitement, above which its administration has always disappointed our expectations. This we will call the secreting point. Even in miasmatic congestions of the liver, where the excitement ran high, we have employed it with no other appreciable effect than local irritation in the *primæ viæ*; a free discharge of viscid mucus, and an aggravation of all the symptoms. We apprehend it was something like this experience which prompted Marshal Hall and other astute observers in all cases of inflammation or profound congestion to premise its use by blood-letting; a precept, the practical value of which it would be difficult to overrate.

We have occasionally met with a case somewhat analogous to the above, where we had reason to believe we employed it

under too high excitement, with the following results: The stomach and bowels were left slightly affected; the action of the liver was not perceptibly increased, and the impression was reflected upon the parotid glands and structures of the mouth, resulting in salivation. After the lapse of a few days, and pending this salivary flux, the bile started from the liver in abundance, and continued to flow until convalescence was established. Now the philosophy of such a case, as revealed by the phenomena, is luminous and beautiful. The mercury makes an impression on the stomach coincident with its special virtues; and this impression is transmitted through sensitive nerves to the nervous centers; and then the nervous power is developed and reflected through motor nerves to all parts of the body. The liver, to which it sustains the closest vital relation, not being in a condition to respond, perhaps from *hyperemia*, it is reflected upon the salivary glands, where it sets up a process of depletion, which continues until the action of the liver is brought down to the secreting point. The affection of the mouth now, as was the gastric mucous membrane in the first instance, becomes the point of departure for a new circle of sympathies, and the impression, by an analogous process, is reflected abroad. The liver, now so altered in its condition as to bring it in relation to its appropriate stimulus, pours forth its secretions. This is an occurrence which attends the every-day life of the physician, however he may close his eyes to the interesting phenomena.

Various circles of sympathy are generated by the local action either of morbific or remedial agents upon the organism. The first impression of the agent may set in motion a great range of reflex nervous actions. As new impressions are sympathetically instituted—viz., ptyalism from mercury—they become the points of departure for other reflex nervous actions; and a consecutive series of sympathetic results follow a primary impression, either by morbific agents in the production of diseases, or remedial agents in their cure.

Were it compatible with the circumscribed limits of this

article, we might furnish the most convincing proof of the utter failure of all attempts to show that either morbific or remedial agents act upon the human system through the blood. We might allude to the impregnable bulwark, which has been erected against such contingency, in the vital economy of all organic beings, without which wise provision they could have no continued existence. We might show that in their very constitution every avenue is so guarded as to exclude all such agents; that irritability, as a faithful sentinel, stands at all the inlets of the body, admitting and excluding, in accordance with the great law of adaptation engrafted upon organic beings for their preservation; that, in a normal state, nothing is allowed to pass the pyloric orifice but chyme; the lacteals but chyle; that the red globules of blood are many times smaller than the visible capillaries, which carry only white blood, and from which they are excluded by the peculiar irritability of these vessels. We might show that experiments from all reliable sources have utterly failed to detect these agents in the blood, except in a few instances; and after having so modified the irritability of the vessels, as to change their relation to the agents. And when they have passed the well-guarded portals of the body, it has been in such small quantities and so much diluted by the general mass of circulation as to render them inert.

We might oppose to the doctrine of either the production or the cure of disease, through absorption, the well known and irreconciled facts; that the period between the application of the hydrophobic virus and explosion of the disease is sometimes years, when the whole body has undergone many renewals; oftentimes death ensues in an instant by the application of strychnia or hydrocyanic acid, or other deadly poisons; the case related by the late distinguished Dr. Johnson, of the Med. Chi. Review, where the ear of a rabbit was exposed to the bite of a *cobra de capello*, with a pair of scissors kept across it, ready to cut it off the moment the bite was inflicted; yet the animal died quickly in convulsions; that the same philosophy is concerned where joy, or anger, or a surgical operation, or a blow

upon the stomach kills in an instant of time; all which facts are wholly irreconcilable with the doctrine of absorption, and furnish substantial grounds for analogical inductions as to the *modus operandi* of morbific and remedial agents through reflex action of the nervous power.

It is a noteworthy circumstance attending the constitutional action of mercury, illustrative of its profoundly alterative effect, that oftentimes, when completely established, it maintains itself for an indefinite period of time. A torrent of saliva will sometimes continue to flow for days, from the constitutional influence of less than a grain of calomel; and this same individual will continue for years to be the subject of remaining influences of that one grain. When the specific effects of mercury, says Dr. Todd, "have been once established in the system, it is surprising how long it will continue to operate. I have frequently detected it after several years, the mercurial action being called forth from time to time by cold, privations, or intemperance." This we have often witnessed in similar subjects, and believe the phenomena may be developed by almost any cause capable of disturbing the rythmic action of the vital economy. It is the same in principle as protracted incubation in hydrophobia, and that long-continued predisposition to intermittent fever contracted by a residence in a miasmatic district, giving rise to attacks, at long intervals, even after removal to a salubrious region.

That the philosophy of these phenomena is vital, and not physical, is demonstrable from the admitted fact, that in the rapid process of nutrition and waste, no material parts of our organism are in any wise the same at an interval of six months; and those poisons not speedily eliminated by the various emunctories, must be swept off in these perpetual renewals.

The vital properties being the only attributes of organic beings which survive this waste, whose presence is forever necessary to carry on the work of decay and renewal, which is in perpetual progress in the instruments over which they preside, lie at the foundation of disease and therapeutics. Hence

an important law, that all impressions, whether healthful or morbid, that do not produce their effects until after the body shall have undergone renewal, as the hydrophobic and mercurial, must be made primarily upon the properties of life; and all the subsequent changes, whether of the fluids or solids, must be due to that original modification of these properties.

The idea that mercury, in substance traverses the human system, finds a lodgment in the tissues, and owes its therapeutic agency to any change in the blood or direct action on the structures of the body, is so repugnant to reason, so at war with the economy of organic nature, and so irreconcilable with the philosophy of the laws of life, as reflected through the phenomena of both healthy and diseased action, we cannot allow it a place in our medical creed. It clearly implies chemical forces under the control of physical laws in a living or organic being, which, to say the least, is unphilosophical.

In the constitution and functions of living beings, there is neither inorganic matter nor an inorganic force. There is only one force, a vital force, which is the mainspring of action, from the minutest molecular aggregations, to the most complex organic functions.

We are not unaware of the source whence have proceeded those physical doctrines which encumber, and we may say, disfigure our current medical literature. For the last quarter of a century our Profession, chiefly in the British Isle, but largely in this country, has been the victim of one of the most stupendous humbugs that has ever been known in the walks of science.

Assuming as the ground of their reasoning a proposition variously couched under high-sounding phrases, such as *correlation* and *equivalence of forces; conservation* and *metamorphosis of force; physical basis of life; developmental theory; spontaneity of living beings, etc.*, the advocates of the new philosophy, as they are pleased to term it, discard all the evidences of a peculiar power known as the vital principle, and refer all the phenomena to forces inherent in inorganic nature, between

which there are no conceivable resemblances. Although it is called the "new philosophy," it is well known it is simply a rehash of the doctrines of the ancients, which have been a thousand times refuted, now resurrected, galvanized into life, and dignified with the name of "modern science." Permit us to say here that this hypothesis legitimately conducts us to the most unmitigated materialism; and then atheism is an easy achievement; for some of these same philosophers, reasoning legitimately from their premises, that thought is a secretion, and bears the same relation to the brain that bile does to the liver; others, that it is evolved by chemical action through converted energy of the brain. This is the intellectual banquet to which we are invited in the nineteenth century. With such doctrines we hold no fellowship. This reducing of living beings in a physical sense, to a level with inanimate matter, and identifying the vital force with the forces of inorganic nature, with which our medical literature is now so deeply tinctured, is perhaps the grossest violation of inductive philosophy that has ever been inflicted upon science.

It will be conceded that these doctrines come to us under sanction of very high names, and the opinion of such men, on all subjects that come legitimately within the scope of their special researches, are not to be despised. But the profound in our science are apt to imagine that they have compassed all the sciences, and to gather into the fold of that science all the phenomena of nature. Hence the laws by which they would have us to interpret vital phenomena, come from the chemical laboratory and the dissecting-room; the crucible, and the scalpel; which have no analogies in living beings. Enthusiastic and justly exultant at their achievements in their legitimate vocations; occupied exclusively with those forces which appertain to their own department of science, they imagine that all other forces in nature are resolvable into them, and carry them forward to the interpretation of vital phenomena (of which they have but a superficial knowledge) and offer them as a basis for the whole science of medicine. The bugle is sounded by Dr.

H. Bence Jones, in a Croomian lecture on "matter and force," which you will find in the "London Lancet" for 1868. "The doctrine," he says, "of the conservation and metamorphosis of force, and of the inseparability of matter and force, will lead to an entire change, not only in physiology and pathology, but also in that most practical part of medicine, therapeutics." In elaborating these views, the Doctor considers disease, if we rightly understand him, to consist in either an augmentation or diminution of force; and the remedies are intended so to modify the chemistry of the body as to lessen the force, when in excess, or increase it when deficient. No force is recognized, except inorganic force, inherent in the elements of matter.

Dr. Jones may be a profound chemist, and an adept in the dead anatomy of the solids and the fluids of the body; but has certainly been a very listless observer of nature in her living aspects.

We have no controversy with the physical facts of Dr. Jones, or any other of his school, whose pretended philosophy is now sweeping like a hurricane over the intellectual world, provided they are restricted to their proper vocation of elucidating the constitution and laws of inorganic nature, and applying the results to practical purposes; but when they offer these facts in explanation of the properties and laws of a department of nature, which lies not within the sphere of their investigations, and with which they are in direct conflict, and hail it as the harbinger of a total revolution in medical science, we confess to a feeling of the most profound humiliation, at the suple acquiescence of our time-honored Profession (which justly exults in its traditional eminence), in hypotheses founded on the wildest distortions of nature.

It shall be our humble endeavor to preserve our noble science unsullied from all alien encroachments; and in our conflicts with those maladies that "flesh is heir to," never to forget that we are dealing with living beings, whose laws, properties, and functions find no analogies in the workshops, either of the chemist or mechanical philosopher. Nor are we oblivious of

the fact, that it is by an appeal to these false analogies and a disregard of the peculiar phenomena of living beings that the hypothesis, which assumes that disease is produced and cured through absorption, has so strong a hold upon the medical mind.

We hope the great importance of this subject will afford a satisfactory apology for indulging in this little episode; formerly the *modus medendi* of a given remedy of acknowledged value was a matter of the highest practical moment. To estimate its value as a remedial agent, it is only necessary to consider the permanency of the therapeutical effect of mercury and the great variety of indications it fulfills.

The view we have presented must have suggested the importance of a careful diagnosis, and a clear understanding of the pathological conditions, to be assured of the applicability of the remedy in any given case; for it is a powerful agent; never negative in its effects; never failing to alter the condition of disease, either for the better or for the worse; too often for the worse. No other remedy requires more judgment and skill for its right administration; none that exercises such a powerful control over the secernent and excernent vessels.

To conduct us to those special pathological conditions to which it stands related, and the diversified therapeutical indications it is capable of fulfilling, we need only make practical application of that law, the great law of adaptation, which governs vital stimuli in their relation to the properties of life, whether healthy or morbid, as variously set forth in this article. The law involves an immense range of facts in physiology, pathology and therapeutics. It should be the point of departure in all our medical researches; for it is, as it were, "the polar star, which will guide us safely upon our difficult and dangerous voyage."

ART. III.—SYPHILIS OF THE HAWAIIAN ISLANDS. By JOHN G. BROOKS, M. D., Sandwich Islands.

Tradition fails to give us any well authenticated history of the existence of syphilis among this people, prior to the arrival of Captain Cook in 1778. It is, however, quite certain that before this they had venereal diseases; one not unlike gonorrhœa, and another called by them "Alaala," which was supposed by them to be the result of illicit intercourse or incest; but it is what I consider to be a scrofulous affection, manifested in the enlargement and suppuration of the cervical glands. But soon after Cook's men began to cohabit with the women, a disease very different from anything ever before seen appeared on the genital organs of the natives; and in consequence of their ignorance of its nature, it spread very rapidly. I believe there was never an attempt made to arrest it until after the arrival of the missionaries in 1820. It is said that during this period of forty-odd years thousands fell victims to its ravages. This disease, I am assured, manifested the same characteristics as that which is at present nearly invariably met with—viz., *soft or simple chancre with suppurating bubo, furnishing auto-inoculable pus.*

The propagation of this disease has been so rapid and its consequences so fatal, than in less than a century the population has been reduced from 300,000 to 49,000*, about eighty-four per cent. The cause of this great death rate is attributed both by the early missionaries and the natives themselves mainly to this disease. Before proceeding further, permit me to describe a typical case of the disease in question, and ask, Is it syphilis.

A man presents himself with several chancrous sores on the genital organs, furnishing auto-inoculable pus, with open bubo, usually on both sides, all of which yield kindly to the ordinary local applications; but after a variable length of time he returns, complaining of feverishness, general lassitude, with rest-

* Jarvis' History Sandwich Islands and Statistics of 1873.

less nights, pains in the bones, etc., soon followed by mucous patches, a cutaneous eruption, usually papular, and often iritis.

If not treated now, the patient sooner or later is effected with osteocopic pains, general osseous enlargement, destructive ulcerations, and in fact all symptoms usually described as diagnostic of syphilis in its tertiary stage. In many respects this disease is peculiar; in the comparative rarity of the muco-cutaneous manifestations; in the great length of time usually intervening between the primary and constitutional symptoms, often several years, in its frequently skipping, as it were, the secondary period to show itself in affections of a tertiary character; in the readiness with which it yields to medication; in the comparative short length of time to effect an apparent cure; and more peculiar still—entire absence of chancre—hard or Hunterian chancre—"the initial lesion of the symptoms, so called, in the female. I am informed by my partner, Dr. J. B. Saunders, who is governmental physician of this island (Maui) and Dr. Robert McKibin, of the Queen's Hospital at Honolulu, that in their experience of many years extensive practice among the natives they have never met a hard chancre in the female, and this is the generally accepted opinion of all medical men of the Kingdom.

Now I would not have it understood that I am attempting to produce any argument against the unicity of syphilitic virus, for I have always been taught, and prior to my arrival here my experience has led me to believe in one poison.

During my student days at the Jefferson Medical College of Philadelphia, and four years private practice in Kentucky, I am sure I never met a case of syphilis follow a simple sore with open bubo. Though I have always been guarded in my prognosis for fear of having had a so-called "mixed chancre"—that soft and insecure retreat of syphilographers denying the infectibility of the "soft chancre"—to deal with; and the rather unpleasant consequences of such a prognostic error, as instanced by M. Diday, the receipt of a letter from a former patient threatening murder and suicide. But, on my arrival

here, I found I had another people very different to treat, and not being acquainted with their peculiarities of constitution or susceptibilities to medication, I deemed it proper to let time and experience be my teacher. From these I have learned that while the chancroid will not often contaminate the Anglo-Saxon race, it certainly does this, the Hawaiian—a branch of the Malayan. I am well aware, that at the present time, it is not at all uncommon to have the most distinguished practitioners deny the possibility of a soft chancre producing any constitutional infection whatever. In this I will not at present agree, nor will I attempt to prove to the contrary, other than by a statement of facts which come under my observation in every day practice among the natives of these islands. We have now over five hundred cases on record, all of whom have presented symptoms of syphilis—usually constitutional, from the simplest degree—muco-cutaneous manifestation—to the most malignant it ever attained; and in nearly every case the cause is easily traceable to a multiple or soft chancre, the pus of which is auto-inoculable. This small number, met with in a few months practice, is but a sample of the many thousands of cases treated by other medical gentlemen of the islands.

I think no one could have the assurance to assign to this multitude of sores the appellation of *mixed chancre*, and claim that they are *all* accidental and exceptional to the dogma that constitutional syphilis is associated with and follow only the hard chancre.

I can well appreciate now the hesitancy of M. Ricord in answering, negatively, the question, Will soft chancre cause syphilis? For I am forced, even against my teaching and former belief, to answer such a question in the affirmative.

In treatment, there are no novelties among the physicians here, save the method pursued by Dr. Saunders, who, after observing the injurious effects of the mercurial treatment in many cases among the natives, experimented with the tartrate of antimony and potassa, among other remedies, and finding its action all that could be desired, has adopted it as an universal

remedy in all stages of the disease. In the tertiary stage he combines small quantities of iodide of potassium. At first, I was not much inclined to accept this mode of treatment, but after several months remarking its most happy effects, was so fully convinced of its efficacy, that I have not seen cause to change it for any other, save in a few experimental cases. I am not aware of the fact, that this remedy has ever before been used as a curative agent in syphilis, and it is to be hoped that ere long Dr. Saunders will give us a detailed account of his use of the drug.

ART. IV.—CANTHOPLASTY AS A DERNIER RESORT IN SCROFULOUS CORNEITIS. By SAMUEL THEOBALD, M. D., Ophthalmic and Aural Surgeon of the Eye and Ear Dispensary, Baltimore, Md.

The operation of canthoplasty, one of the many recent accessions which ophthalmic surgery has added to its available forces, consists in the division of the external canthus of the eye, and the uniting, by stitches, of the cut edges of the skin and conjunctiva, to each other, in such a manner as that the palpebral aperture shall be permanently lengthened, and the pressure of the lids upon the globe diminished. The division of the commissure is best made with a pair of strong scissors, the blunt point being inserted between the eye-ball and the lids. A single closure of the scissors is sufficient to complete the section, which should extend in a horizontal direction toward the temple, and be from four to five mm. in length. The wound being stretched vertically by an assistant, its conjunctival and dermal edges will come into apposition, and may be so retained until union takes place by three sutures, placed at the centre and near the extremities of the cut, respectively. Water dressings should be applied, and the stitches removed upon the second or third day, according to the indications. The effect of this procedure is to lessen the tension of the lids, and by

weakening the action of the orbicularis palpebrarum muscle, to diminish, especially, the pressure which the upper lid and its tarsal cartilage exert upon the cornea, the most prominent portion of the globe.

That the acutely sensitive cornea should be insensible, even in the normal condition of the parts, to the constant friction of the lids, is not a little surprising, when we reflect how readily it resents the most delicate touch of even the least offending substances; and we are fully prepared to anticipate the results which follow, when the smoothness of the inner surface of the lids is destroyed, as in granular ophthalmia; or the corneal nerves are exposed by destruction of their epithelial covering, as in scrofulous corneitis. The importance, under such circumstances, of diminishing the palpebral pressure can not be over estimated; and especially when we remember that this, owing to the existence of blepharospasm, is always almost excessive.

The operation of canthoplasty supplies us with the means of most efficiently accomplishing this object, and the results which have followed its adoption in the treatment, especially, of pannus and phlyctenular ophthalmia, have not been less satisfactory than the rationality of the procedure would warrant us in anticipating. As we shall, however, seldom fail to cure even the most obstinate cases of scrofulous or phlyctenular corneitis by the proper administration of constitutional and the application of local remedies, the division of the canthus, under such circumstances, should be looked upon as a dernier resort only. The constitutional remedies from which we are likely to derive the most benefit, are the syrup of the iodide of iron and cod-liver oil, with occasionally a mild aperient. The local treatment must vary according to the character of the symptoms in each particular case. Atropia, under all circumstances, will be found beneficial. Two or three drops of a solution of sulphate of atropia, from one to four grains to the ounce of distilled water, should be dropped into the eyes three or four times a day. In a few days the photophobia and lachrymation will have greatly diminished; and in many cases no other local ap-

plication will be required, except that the edges of the lids should be anointed, at bedtime, with some simple ointment, as the ung. aquæ rosæ, which will prevent their being gummed together by the discharge which collects upon them during sleep, and will lessen the chances of marginal blepharitis.

Not unfrequently, however, we find that the disease does not so kindly yield to the atropia alone. Under such circumstances the yellow oxide of mercury should be resorted to, unless there exist pronounced catarrhal symptoms (considerable conjunctival swelling and muco-purulent discharge), when a mild astringent collyrium (argen. nitrat., gr. ¼–j. to aq. f℥i., to be instilled once or twice a day,) will be found more appropriate. The yellow oxide of mercury should be used in the form of an ointment (gr. i–j. to adipis ℥i.), and a small quantity be applied, once a day, by means of a camel's hair brush or a probe, to the inner surface of the lower lid, so that it may diffuse itself over the eye. In either case the instillation of the atropia must be continued.

We shall, however, occasionally, meet with obstinate cases which, resisting all our efforts at medication, not unfrequently terminate in destruction of sight through extensive ulceration of the cornea; and it is as a very welcome aid in contending with such that the operation of canthoplasty will be found most serviceable. The following synopsis of the notes of a case of this description will best illustrate the foregoing remarks:

Miss —— ——, aged eighteen years, was brought to my office April 25th, 1872. She had been suffering with her eyes since the preceding November. She presented a characteristically scrofulous appearance; a thickened and inflamed upper lip, with scabs and fissures about the nasal orifices. The eyelids were much swollen, and there existed intense photophobia and copious lachrymation. An examination revealed in both eyes corneal ulcers, and the usual conjunctival and sub-conjunctival injection. The photophobia was so great that the eyes could not be kept open an instant, and of course no attempt to ascertain the acuteness of vision was possible. Atropia, syr.

ferri iodidi, and ung. belladonnæ, the latter to be applied to the brow and forehead, were prescribed; and the patient, contrary to instruction, did not report again until the 25th of March, when she came to say, that for a time after the treatment was commenced, the eyes seemed to improve; but that she thought she had "taken cold in them," and that now they were much worse.

I found the lids greatly swollen and inflamed, and learned, upon inquiry, that the mother had been applying poultices to them. An ulcer had perforated the left cornea near its upper margin, and a partial prolapse of the iris had taken place. The conjunctival injection and œdema, as the result of the application of the poultices, were, of course, much increased.

It is unnecessary, however, to follow out the details of this most unpromising case. Every plan of treatment, likely to be successful, was tried in turn without avail; and though she more than once temporarily improved, she as often relapsed, and her condition grew worse rather than better. She finally began to suffer intense pain in the eyes and forehead (ciliary neuralgia), and the tension of both globes was increased, showing that the inflammation had extended more deeply and had involved the uveal tracts. Both corneæ became diffusely clouded, and the left was so extensively destroyed by ulceration that I gave up all hopes of retaining any useful vision whatever in the eye. Under these circumstances the operation of canthoplasty suggested itself. I could find but little evidence as to its efficacy in similar cases; and owing to the depraved condition of the patient's system, and to the great amount of swelling and inflammation of the lids which still existed, I hesitated for some time before resorting to it, fearing lest the inflammation which the division of the canthus and the insertion of the stitches might excite, should outweigh the good which the operation was capable of accomplishing. Finally, however, as the patient was suffering greatly, and the condition of her eyes seemed to be growing every week more critical, I decided upon the performance of the operation as the only hope of

affording her any relief, and of saving at least a remnant of useful vision.

From the imperfect examination which, owing to the swelling of the lids and the blepharospasm, I had been able to make of the left eye, I was almost convinced that the cornea had been so completely destroyed as to render vision with it impossible; and as this eye caused her more suffering than the other, I determined, with her consent, that if, after having administered chloroform, and made a careful examination, I should find my convictions confirmed, I should enucleate it at once, and perform canthoplasty upon the right side only.

Fortunately, however, the examination revealed a more favorable condition than I had hoped for; a bit of semi-transparent cornea still remained, and behind this a portion of the iris, and the edge of the pupil could be seen. It was at once determined, therefore, that an effort should be made to save both eyes.

The patient being well under the influence of the anæsthetic (a mixture of chloroform and ether, equal parts), the operation was performed as above described, three sutures of fine silk being inserted on each side. Cold-water compresses were ordered to be kept constantly applied to the closed lids. Upon the second day after the operation (which was performed upon the 26th of August), as there was considerable puffiness of the lids, the stitches were removed, atropia instilled, and a few drops of olive oil applied to the outer canthi. Water dressings were ordered to be applied at intervals. On the second day after the removal of the stitches the patient, already, expressed herself as feeling more comfortable than before the operation; and from this time the improvement was constant. On Sept. 7th she reported that she had been able to leave off her bandage, and open her eyes, the room being darkened; and that she was able to distinguish the ordinary articles about the apartment. Blue spectacles, with curved glasses, were ordered; and two weeks later, when I called to see her, she walked into the parlor to meet me; both eyes being open, and protected by the glasses only.

September 28th she called at my office. Her eyes were free from photophobia; and the sight being tested, I found she had V= $\frac{10}{cc}$, and was able with the right eye to decipher a few words of Jaeger No. 14, and with the left a few words of No. 16. Since then the corneæ have continued slowly to clear, and the sight has proportionately improved; so that, when last seen, a few weeks since, she was able to read No. 1, the smallest of Jaeger's types. She is now employed at dressmaking; and for several months has been sewing by the day, although she tells me she has not been able to do the finest work. with convex glasses $\frac{1}{24}$, I find her vision, for near objects, is somewhat improved; and that with them, owing to their slightly magnifying effect, she is able to read fine print more distinctly, and at a greater distance. I have, therefore, ordered them for her, to be used whenever she reads or sews.

For some time after she began to improve a tonic course of treatment was persevered in; and her general health is now quite good.

A more satisfactory and convincing exemplification of the good effects which the division of the outer canthus is capable of producing in the treatment of obstinate cases of scrofulous inflammation of the cornea, could not be possible than that which the history of this case affords; and it is only necessary, in conclusion, to add that in the treatment of pannus, where it should no longer be considered a dernier resort only, it will be found serviceable; and that when the operation is performed with even moderate skill, absolutely no deformity results.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—GELSEMINUM—AND ITS THERAPEUTIC VALUE. By PHILIP C. WILLIAMS, M. D. [Read before the Medical and Chirurgical Faculty of Maryland, and published by its order.]

Mr. President and Gentlemen of the
Medical and Chirurgical Faculty:

We hazard little in saying that the present, more than all preceding ages, is characterized by wonderful progress in every department of human knowledge. And nowhere has this progress been more gratifying than in the science of medicine. The youngest of us have witnessed astonishing changes in medical science. We have seen the introduction of the microscope, the ophthalmoscope, the laryngoscope, and innumerable other means, material and intellectual, of revealing the healthy structure and the diseased actions of the human organization. In these respects, we have reached a degree of perfection that was impossible to our predecessors; and we rejoice that the science of medicine is no longer enshrouded by the mists of ignorance and superstition, but is beginning to assume a position worthy of her dignity and importance.

I wish that these felicitations were applicable to every branch of our science. But unfortunately our pathology and diagnosis are far in advance of our therapeutics—so far, indeed, that they only serve to manifest the gloom of impossible relief! In many diseases the more correct our pathology, and the clearer our diagnosis, the more certain is the despair of physician and patient. This fact is so patent, that many practitioners have been driven to the extremest skepticism. This skepticism is much more common than we are willing to admit, and it becomes us as wise men—anxious to promote the advance of medical science—to acknowledge the fact, and to correct the evil before it saps the foundation of our medical faith. I know from personal experience how prone we are at times to fall into this

spirit of skepticism. The eagerness of our desire to relieve, prompts us to doubt the efficacy of *any* treatment, because that which we have adopted, after such serious deliberation, has proved so unavailing. It is easy and natural thus to argue; but it is illogical and presumptuous. Shall we pronounce any system false because we fail to comprehend it? Does it follow that no one can cure a given disease because we have been unable to do so? Is it true that no treatment is efficacious because ours has been in vain? May not the fault be in us, rather than in the system which we condemn? May we not have erred in our diagnosis, or, being correct in this, are we sure that we have selected the proper medicines, and given them in the proper doses, and at the proper times? These questions must be satisfactorily determined before we can justify our scepticism by failure in therapeutics.

The mind can grapple no subject more complex or more difficult than the effect of medicines upon the human organization. We know so little of the secret influences that we call "life" or "vital powers," that we can determine nothing in therapeutics by "a priori" reasoning. Chemistry, with all its knowledge of the organic and inorganic kingdoms, has been unable to establish a system of therapeutics. Its most beautiful and plausible theories have vanished before the light of experience. We thus see that observation and experience are the only secure foundations upon which we can erect a rational therapeutics. Experience itself even so often misleads that it tempts us to doubt our own observation. We see such marked peculiarities of constitution presented by various individuals, that we find the same medicines producing widely different results, even when given under apparently similar conditions. The same individual, moreover, is at times very differently affected by the same medicines.

In view of these and many other difficulties that might be mentioned, did time and occasion permit—in view of the impossibility of establishing an "a priori" system of therapeutics—in view of the failure of chemistry to explain the "vital

processes," and their influence upon substances subjected to their action—we are prepared to see how impossible it is, in the present state of our knowledge, to establish any satisfactory system of therapeutics. The time for this has not yet come; but the progress already made in this direction, induces the hope that it may yet be attained.

In the meantime, while awaiting such happy results, let us each endeavor to contribute what we can towards furnishing material for its accomplishment. With the desire of contributing my mite to this great end, I have this evening undertaken to direct your attention to the yellow jasmine, and some of its therapeutical uses. The yellow jasmine, known botanically as Gelseminum Sempervirens or Gelseminum Nitidium, is indigenous to our Southern States, where it has long been known, and extensively used in the treatment of disease. In this latitude it is little known, and rarely used by medical men. My own attention was first directed to its use, in 1862, by a gentleman from New Orleans, who informed me that he had often seen it used in some forms of mania. His statements induced me to experiment with it, and I soon discovered that it was a remedy of great power, not only in the condition referred to, but also in others to which I desire to call attention. I knew nothing of its mode of action, nor even of the indications for its use, but a little experience convinced me of its great therapeutical power. In the past few years our own medical journals have called attention to it; but not until quite recently, has there been given any accurate account of its chemical constitution. Upon this subject Professor Wormley, of Ohio, published a very able and elaborate paper in the "American Journal of Pharmacy" for January, 1870, to which I refer all who desire to be fully informed upon its chemical constitution and relations. For our present purpose, it will suffice to say that Professor Wormley discovered that it contains an organic acid called gelseminic acid, and an alkaloid named gelseminine or gelsemia, which is the active principle of the drug. He describes gelseminic acid as a solid; devoid of color, taste, or smell, readily crystalizable,

and forming groups or tufts of delicate needles. It has strong acid properties, neutralizing bases, and forming salts of different solubility in water; excepting those of the alkalies, which are freely soluble and crystalizable.

Professor Wormley gives a variety of tests for gelseminic acid, but I will only mention two of the most characteristic.

He says: "If a small quantity of this acid, or any of its salts, in a solid state, be treated with a drop of concentrated nitric acid, it dissolves under a yellow coloration to a red or reddish solution, the final color depending upon the quantity of organic acid present. If this solution be now treated with an excess of ammonia, it acquires a deep blood-red color, which is permanent, at least for some hours. This nitric acid solution of even the 1-50,000 of a grain of the organic acid exhibits a distinct red coloration when treated with ammonia. The production of this color is highly characteristic of the organic acid." He then goes on to say: "If you add caustic potash, soda, or ammonia to the acid, it causes it to assume an intense yellow color, and quickly dissolves it, in the form of a salt, to a solution having very striking fluorescent properties, even when largely diluted. A solution of this fluid, containing 1-100 of its weight of the acid, when examined in a small glass tube by *transmitted* light, has a strong yellow color; under *reflected* light, a deep bluish appearance; and under a cone of *condensed* sun-light, it presents an intense blue color along the path of the condensed rays. This blue color, under *reflected* light, is highly characteristic, and affords a very delicate test for the presence of the acid, revealing it even when diluted to the 10-1000 degree. Under condensed sun-light a single drop of a 100-1000 solution will exhibit a decided blue color." The same result, though in a much less degree, is produced by diluting the fluid extract or the tincture of gelseminum and adding an alkali. This blue appearance of the solutions of gelseminic acids resembles those of quinine, with the marked difference, however, that the solutions of quinine have an acid reäction, while those of gelseminum are alkaline.

According to Professor Wormley, as already said, this acid is associated with an alkaloid, called gelseminine or gelsemia, which he describes as a solid without smell or color, but having an intensely bitter taste. It has strongly basic properties, completely neutralizing the most powerful acids, forming salts, of which the sulphate, nitrate, acetate, and chloride are freely soluble in water. In its free state, the alkaloid is sparingly soluble in water, and requires several hundred times its weight for solution. If a drop of concentrated sulphuric acid be added to a small quantity of gelseminine, or any of its colorless salts, it produces a reddish brown color, and dissolves it to a reddish colored solution. If this solution be *moderately heated*, it acquires a beautiful purple color. This coloration manifests itself from the 1-100 of a grain of the alkaloid. Prof. Wormley says that the reäctions of gelseminine are neither so delicate nor characteristic as those of gelseminic acid. The alkaloid exists, as nearly as can be estimated, in the proportion of *one grain* to two and a half ounces of the extract.

Such is a brief synopsis of Prof. Wormley's exhaustive paper on the chemical analysis of gelseminum. His analysis was the result of a case of poisoning by the fluid extract of gelseminum, which occurred in January, 1869. He describes the case as follows: "On the 30th of January last—viz., 1869, three teaspoonsful of the fluid extract of gelseminum were administered to a young healthy married woman, several weeks advanced in pregnancy, who at the time complained of no serious illness. In two hours after taking the dose, the patient complained of pain in the stomach. These symptoms were soon succeeded by great restlessness and ineffectual efforts to vomit, and free perspiration over the entire body. At the expiration of five hours the pulse was found feeble, irregular, and sometimes intermittent; there was great prostration, with irregular breathing, and slow respiration; the skin was dry; extremities cold; the pupils expanded, and insensible to light; the eyes fixed, with inability to raise the eyelids. The vital powers rapidly gave way, and without convulsions death occurred in about seven and a half

hours after the poison had been taken. In this case, death resulted in seven and a half hours from about one-sixth grain of the alkaloid, showing it to be one of the most potent poisons known." A post-mortem, eight days after death, revealed nothing noteworthy except in the heart, which was found normal in size, its superficial veins congested, and its cavities greatly distended with dark, grumous blood, inside of which was found a well-defined membrane, identical with that found in diphtheria and croup. A very marked feature of this case, which affords a striking example of the fixed composition of gelseminum, is the fact that the contents of the stomach were not analyzed until the 13th of June (four and a half months after death), and still the evidences of gelseminum were unmistakable.

"Another case of fatal poisoning by gelseminum is reported by Dr. Davis, of Parkersburg, W. Va., and is found in 'Hays' Journal of Medical Sciences,' for January, 1867. Dr. Davis was called to see Mr. B——, a young lawyer of Parkersburg, and found him lying upon his left side; face somewhat congested; pupils dilated, but responsive to light; eyelids half closed, with apparent inability to move them; lower jaw drooping; tongue, to use his own expression, 'so thick that he could hardly speak'; skin warm and moist; pulse small and feeble; and his respirations somewhat diminished in number. Supposing him to be suffering from excessive dissipation, the Doctor ordered him a brandy punch, and went to the drug store for some medicine. While at the store, he learned from a friend of Mr. B—— that he had taken a tablespoonful of the fluid extract of gelseminum. He immediately sent a student, Mr. White, with instructions to administer an emetic. In a short time Mr. White returned, saying that his patient was dying. Dr. Davis then hastened to him, and found him in a dying condition—'his pupils widely dilated, breathing spasmodic, surface cold, pulse almost imperceptible, and the patient entirely unconscious.' Mustard was applied to his extremities, his body sponged with hot brandy, and artificial respiration resorted to,

but all to no effect. He died at 8:30 P. M., two and a half hours after taking the poison." This patient was killed by one-fifth grain of gelseminine.

These cases show how rapidly fatal is gelseminum when given in excessive doses.

Let us now look at its effects in moderate doses. These I derive from its frequent use upon myself for the relief of supra-orbital neuralgia. For this purpose I use the *tincture* (made by macerating four ounces of the root in twelve ounces of alcohol), of which I take from thirty to sixty drops. In doses of about thirty drops it produces no perceptible effect, except the prompt relief of pain. If the dose be increased to about eighty or one hundred drops, I find that it produces a very agreeable sense of languor and tranquility; then occurs slight dizziness, accompanied by impairment of vision, owing to dilatation of the pupil; next comes a drooping of the eyelids; then a sense of numbness, beginning in the head and scalp, and gradually extending to the upper, and then to the lower extremities; next ensue disorders of motion, producing slight paralysis; and finally the respiration becomes embarrassed, and the heart's action enfeebled. A still larger dose intensifies all of these effects, and produces marked vertigo, almost entire blindness, decided ptosis, an increased disorder of sensation and motion, approximating to entire paralysis, and the lungs and heart very much weakened and embarrassed in their action. Further than this I have not ventured; but up to this point the mind remains wholly unaffected, and you gradually return to a normal condition; and experience no subsequent effect beyond an evanescent sense of general debility.

We see at a glance that in all these cases the *sequence* of effect is well marked and unvarying. The first effect is upon the *sensory centres*, as evidenced by the relief of pain, long before there occurs the slightest change in the motor functions; then we find a slight sense of dizziness supervening, accompanied or followed by impairment of vision; next dilatation of the pupils and drooping of the eyelids; then the numbness of

the scalp, which gradually extends to the upper and lower extremities. At this point, after the *sensory* derangements or modifications have extended from the centre of the periphery, the *motor functions* begin to be affected. Here, too, as in the sensory system, the effect is *centric*, and the first result is drooping of the eyelids (producing more or less complete *ptosis*), then arises more or less difficulty in moving the head, neck and arms, and then the legs are moved with more or less difficulty; and finally the organic muscles begin to suffer, and the lungs become embarrassed in their action, and respiration becomes impeded and irregular; *and last of all*, the heart becomes weakened and the pulse reduced in force. All these progressive changes are produced without the slightest effect upon the mental functions. These remain perfect, until the failure of the lungs' action induces carbonic acid poisoning, and destroys conscience as the immediate precursor of death, which results from apnœa.

The effects thus indicated afford a very safe and reliable means of determining how far the use of the medicine may be carried, and show that it is perfectly safe so long as the organic affections remain unaffected. When the lungs and heart become embarrassed in their action, danger is to be apprehended, and the medicine must be promptly suspended. The production of partial ptosis is the guide which I follow; when that is produced, I either discontinue its use, or diminish the dose.

There are only two preparations of gelseminum that are in general use—viz., a tincture, and a fluid extract.

The tincture is made by maceration or percolation—using four ounces of the root to twelve ounces of dilute alcohol; which makes it about twice as strong as the ordinary tinctures of the pharmacopœia—and the dose ranges from twenty to sixty drops. The fluid extract is made in the usual manner, and is given in doses of from ten to thirty drops.

For some reason that I can not explain, the fluid extract is not so certain in its effects as the tincture, and it is much more

disagreeable to the taste. For this reason I always prescribe the tincture.

Some of the druggists in this city keep the fluid extract only, which they reduce to the strength of the tincture by the addition of dilute alcohol. I mention this fact, because it explains the peculiar appearance, and the uncertain effects of some of the preparations that are in use.

This brings me to the more practical branch of my subject—viz., some of the therapeutical uses of gelseminum.

First.—I will call attention to its use in *cranial neuralgias.* By this I mean all the neuralgias of the face, head and scalp. If these neuralgias are simple—that is, not malarial, or not produced by organic disease of the brain—they will be relieved by gelseminum with more promptness and efficiency than by any remedy that comes within the range of my knowledge.

I make this statement with great confidence, because it is based upon almost innumerable experiments upon myself and others. For many years I suffered greatly from frontal and supra-orbital neuralgia. Loss of rest, indigestion, exposure to cold, or any derangement of health, would produce it in a violent form, and I never found any certain or speedy means of relief until, as a mere experiment, I tried the tincture of gelseminum. The relief was prompt and complete. I then began to prescribe it for my patients, and the results were most gratifying.

Not only was the effect rapid and thorough, but it was unattended by any of the unpleasant consequences following the use of ordinary anodynes. In many cases of neuralgia, a single dose of thirty to forty drops is sufficient. It is rarely necessary to repeat the dose more than two or three times, at intervals of one or two hours, to effect entire relief; and then smaller doses, at longer intervals (say twenty or thirty drops every four hours), continued a few days, will prevent its return.

Similar happy results will be observed in neuralgias of the *scalp.*

In *maxillary* neuralgias, I am sorry to say, my experience

has not been so satisfactory. This may be explained by the fact that the maxillary nerves are rarely the seat of simple neuralgia, it is nearly always accompanied or produced by dental caries, which maintains such constant and powerful irritation that the gelseminum is insufficient to overcome it, when given in safe doses.

I also regret to say that gelseminum fails in great degree to relieve *spinal neuralgias;* whether they be in the trunk, or in the extremities, unless it is given in dangerous doses.

This may possibly be explained if we recall the *sequence* of effect produced by gelseminum, and remember that it produces very decided and unpleasant effects upon the brain—viz., vertigo, ptosis, blindness, etc., before any action is experienced upon the trunk or extremities. Its action is felt, first, upon the brain and central organs, and thence extends to the periphery; and we would naturally expect that the spinal cord would be affected less powerfully than the brain. But whatever be the explanation, the fact is indisputable that gelseminum (when administered in safe doses) does not relieve *spinal* neuralgias with the promptness or certainty experienced in *cranial* neuralgias.

Secondly—I desire to call attention to its use in *cerebral congestion,* whether that congestion be slight, producing mere fullness or headache; or whether it be severe, and threaten effusion and apoplexy. I will illustrate its great power in such conditions by quoting two of the many cases that I might mention did time permit.

Last spring I was called to see Mrs. P——, a lady from Virginia, about forty years of age, who had been suffering from retroversion of the uterus for several years. This had produced violent "spinal irritation," accompanied by intense pain in the back, abdomen, and lower extremities. I tried the jasmine and failed to relieve her. The pain could always be stopped temporarily by the hypodermic injection of morphia and atropia combined. The first injection produced almost instant relief. The patient said that it was the first time that she had been

free from pain for two years. After relief of the retroversion, and decided improvement in the spinal trouble, my patient—contrary to my advice—returned to Virginia. The fatigue of the journey, and the excitement caused by the felicitations of her friends, who thought that she had come to Baltimore to die, and were rejoiced to see her return so well, produced a relapse. She grew steadily worse until the month of August, when I was called to visit her in Virginia. I found her much worse than when I first saw her in Baltimore. The meningitis (?) had extended up the spine, and had reached the medulla, and probably the brain. She suffered frightful agony along the spine, in the neck, in the head and eyes, and in the extremities, particularly on the left side. The pain was much more violent at some times than at others. When it reached its greatest intensity, the head became strongly congested and drawn to the left side, the left eye lost its sight, consciousness was abolished, the left hand and arm became powerfully flexed, so much so that the mere flexion produced great pain, and the whole frame was racked by violent epileptiform convulsions. This condition of things had existed for some days; the paroxysms were becoming more frequent and violent, and everything indicated speedy termination in death. The urgency of the case demanded active and immediate interference. Bloodletting was out of the question, by reason of her great exhaustion. All ordinary means had been exhausted by her attending physicians, and I at once determined to try large doses of the jasmine. I gave nearly a teaspoonful (about 100 drops), with instructions to repeat it every two hours, in sixty-drop doses, until further orders. To my surprise (for I thought she was sure to die) she soon began to improve, *and had no return of the convulsions.* An attack was always indicated by the approach of blindness. As soon as this was observed, she would take sixty or eighty drops of the jasmine, and the paroxysm would be averted. Under this treatment she was soon able to sit up, and improved so much that she was shortly afterward removed from the White Sulphur to her home near Staunton.

Recently I was sent for to see Mrs. H——, a married lady of about forty-three years. She usually enjoys good health, but for several months past has suffered from menstrual irregularity incident to "change of life." Upon inquiry I found that for two days she had suffered from severe headache and nausea. On Friday morning the headache became very violent and the nausea much increased. I was sent for that afternoon. I found her lying on her back, her face exceedingly red and congested, extremities cold, the right pupil dilated and but little responsive to light, the right eyelids separated from each other and almost immovable, the right side of the body anæsthetic, the muscles of the face rigid, the arms (especially the right arm) violently flexed in tonic spasm, the thumbs thrown into the palms of the hands, and her mind conscious but dull and slow in its action. This condition had lasted for an hour, and was increasing in violence. I administered eighty drops of the tincture of jasmine; then, in order to gain time for the action of the medicine, and also to relieve the violent pain produced by the contraction of the extremities, I administered chloroform by inhalation. I kept her under decided, but not complete, influence of the chloroform for about half an hour. By this time the contraction began to relax, and the congestion of the face to disappear. Supposing that the jasmine was beginning to exert its influence, I withdrew the chloroform and gave sixty drops more of the jasmine. I soon observed a decided change for the better. I then ordered the medicine to be given every two hours, in doses of forty drops, and left the house. I saw her again at 7 and at 11 P. M., and, finding her very comfortable, I diminished the dose to thirty drops, with instructions to continue it all night, at intervals of two hours. I also ordered a pill containing two drops of croton oil. Saturday morning I found her much better in every way, except that she was suffering from sick stomach, which I ascribed to the pill, that had not yet acted. I now ordered the jasmine to be given at intervals of four hours instead of two. I called at 2 P. M., and found her doing very well. I saw her again at 7 P. M., and

found that she was beginning to have a decided return of the pain in the head, congestion of the face, and contraction of the arms and right leg. I immediately gave sixty drops of the jasmine, and ordered it to be continued every two hours, in doses of forty drops. From this time she improved rapidly. On the fourth day (Monday) she was convalescent, and I ceased my visits.

Thirdly, I would direct attention to its use in acute mania. In the fall of 1868 I was called to see Mr. W——, a young married man, of good habits, who previously enjoyed good health. Recently he had become melancholy and indifferent to everything, and was suddenly attacked with violent acute mania. Being unable to discover any cause for the mania, and seeing no special indication of treatment, I gave him thirty grains bromide of potash every two hours, with the hope of producing sleep, but without avail. The mania and sleeplessness continued. I then tried several other medicines without effect, and finally resorted to the use of gelseminum. The result was most happy. He took forty drops every two, three, or four hours, according to circumstances. So long as the gelseminum was continued, the mania was controlled, and he was docile and manageable. At last he took up the idea that his mother and I had conspired to poison him, and nothing could induce him to take any more medicine. He grew rapidly worse, and soon became so violent that we were obliged to send him to an asylum to protect the life of his family.

Fourthly, I would ask attention to the following case: In April, 1868, I was called, in consultation, to see a child about eight years old, laboring under tuberculous meningitis, accompanied by intense photophobia and the peculiar cry or shriek so painful in that disease. So loud and constant was this cry that it was distressing to be in the house. The child was hopelessly sick; no chance of cure presented itself, and I suggested the use of jasmine, with the view of checking this dreadful cry. The third dose stopped it. The family physician, supposing that the cessation of the cry was a coïncidence, rather than the

effect of the medicine, suggested the discontinuance of the remedy, in order to test the question. We accordingly stopped it. The next morning the parents informed us that the little boy became so unmanageable, and the cry returned with such violence, that they resumed the medicine with perfect success. During the remainder of the child's life the photophobia was much relieved, and the cry entirely prevented.

I might have added many cases to those I have quoted, but I shrink from a greater tax upon your time and patience than I have already imposed, and therefore have contented myself with reporting a few type cases, giving one or two in each variety of disease in which I have found it so beneficial. The cases quoted show very clearly that few drugs possess so prompt and powerful an influence as gelseminum. They may also serve to enable us to generalize a little, and express the hope that gelseminum will prove serviceable—either by mitigation or cure—in all diseases of the nervous centres that are accompanied by congestion and pain. They may also serve to explain the *mode* in which these results are accomplished.

That gelseminum does relieve, and even cure, congestion of the brain is put beyond question by the cases of Mrs. P—— and Mrs. H——, above quoted. It seems equally clear that the congestion was not relieved by weakening the heart's action, and thus diminishing the quantity of blood sent to the brain, because the experiments quoted show that the heart is the last of the great organs to exhibit the effects of the medicine.

How, then, is it accomplished?

It seems to me that it must act as a stimulant to the sympathetic system, and by this means produces contraction of the blood vessels, diminishing their calibre, and thus controls the quantity of blood that passes through them. In moderate doses, the jasmine relieves the congestion without any perceptible effect. In larger doses, it produces such a diminution in the supply of blood, that it produces temporary anæmia, and causes impairment of function, as evidenced by dizziness, numbness, deranged vision, embarrassed respiration, and impeded circula-

tion. But not only is congestion relieved; the pain disappears also. Can it be that the congestion is the cause of the pain? It would seem so; because, as already said, remove the congestion, and the pain disappears. The congestion and the pain appear to be the cause and effect.

How does the congestion produce the pain?

I attempt an answer to this question with great diffidence. I know that modern research seems to show that the "*gray matter*" may be lacerated and pressed *ad libitum* without producing pain. Yet, notwithstanding this fact, may not the morbid process which produces the congestion in any part of the "gray matter" so modify that portion as to render it sensitive to impressions that it would not otherwise experience? If this be so, may we not discover the pathology and the therapeutics of neuralgia in this fact?

We know that the "gray matter" (the sensory portion) of the nervous system consists of undefined cells, forming a sort of pulpy mass, which is most richly supplied with blood vessels that traverse it in every direction. Now it is easy to see that if irritation (arising from whatever cause) be applied to any portion of the "gray matter," either in its central mass, or in its nerve expansions, it would produce congestion, and the distention would produce pressure upon the surrounding "gray matter," and thus develop pain.

If this can be admitted, we have an easy explanation of the nature and cure of neuralgia. For example, indigestion, exposure to cold, or any other exciting cause, may so affect the sympathetic system as to produce paresis of some particular nerve centre, or nerve expansion, and there results relaxation of the blood vessels distributed to that portion of "gray matter," followed by congestion, which produces pain in the manner described. Now administer the jasmine in proper doses. It immediately stimulates the sympathetic, contracts the enlarged blood vessels, relieves the congestion, removes the pressure incident to such congestion, and cures the pain.

Whether this theory be true or false, the fact remains—and

is confirmed by ample proof—that gelseminum will cure all pure, simple neuralgias of the cerebral system with wonderful promptness and efficiency; that it will relieve cerebral congestion; that it controls maniacal excitement; and relieves a variety of conditions resulting from derangements of the central nervous system. For these, and analogous disorders, I cordially recommend gelseminum as a most powerful and efficient remedy.—*Exchange.*

ART. II.—OVARIOTOMY BY ENUCLEATION—RECOVERY. Reported by SAMUEL LOGAN, M. D., Professor of Anatomy and Clinical Surgery in University of Louisiana, and W. H. FORD, M. D., Professor of Physiology in New Orleans School of Medicine.

Prof. Miner's plan of operating for ovarian tumor being still *sub judice*, it seems to be the duty of all who resort to that method to report their results, and under that conviction we record the following case, the early symptoms of which were developed under the immediate observation of Prof. Ford, in whose practice the case occurred:

Mrs. A. H. L., aged forty-two; married; multipara; nervous and excitable, subject to hysterical paroxysms; has not menstruated since birth of last child, now twenty-one months old.

May 12, 1872.—Has a tumor in hypogastric region as large as the uterus at four months' utero-gestation, ovoidal in shape, movable.

June 8th.—Tumor increased in size until it now fills the abdominal cavity; everywhere tender on pressure, or even to the slightest touch. Dullness on percussion over abdomen; fluctuation in the neighborhood of umbilicus. General contour of tumor clearly recognizable; vagina and cervix normal; uterus immovable in hollow of sacrum. No fœtal heart-sound, but a constant murmur closely simulating the placental suffle,

June 9th.—Patient in great distress; demanding relief; abdomen tense and extremely painful to touch; fluctuation per-

ceptible over the whole abdomen. Pains, similar to those of labor, coming on every hour or two. The uterine sound could not be introduced more than two and a half inches. Under diet, warm water douches in the vagina, stramonium poultices to abdomen, etc., the acute symptoms ceased after a few days.

The general fluctuation, the presence of bosselated enlargements on the sides of the pyriform mass, the rapid growth, and acute pains, determined the diagnosis in favor of cystic degeneration of the wall of the uterus, or of some of the annexes of that organ.

June 15th.—Chloral at night; abdominal pains especially severe on turning in bed. Bowels regular; urine very scanty and high-colored. Fever from time to time, but more in the last two days. Pain in the right iliac region. Appetite and digestion good.

June 25th.—During last forty-eight hours has had a dribbling of clear watery fluid from vagina. Tapped in linea alba one and a half inch below umbilicus, and one and a half pint of glairy, flocculent, citrine fluid escaped during an hour; and as much more during the ensuing thirty-six hours, when the wound was closed with a bit of strap. Relief decided; very slight inflammation about the puncture. Ordered quinia and iron.

After this, patient was tapped seven times at intervals of from five weeks to six or eight days. The last tapping on October 10th. Fluids evacuated in all cases similar; citrine, glairy, and, towards the close of the tapping, almost puriform. Viscidity most marked in fluids obtained from the harder nodular masses of the left side of the body of the tumor. Punctures gave no trouble. The quantity of fluid drawn off at each tapping varied from three pints to two gallons. The puncture made in the last tapping was intentionally kept open by the patient, in view of the relief from oppression, now very urgent, afforded even at the inconvenience of the constant discharge. Notwithstanding the escape of so much fluid, secretion was so rapid that enlargement continued. Puffiness under the eyes;

legs and feet œdematous and cold; appetite fair; digestion imperfect; colicky pains; pulse eighty-five. Girth through umbilicus, thirty-four inches; from pubis to ensiform cartilage, fifteen inches.

November 10, 1872.—Ovariotomy having been decided on, it was performed this day by Prof. Logan, assisted by Prof. Ford, and by Drs. A. H. Cage, C. B. Galloway, and C. B. Galloway, Jr., of Canton, Miss. The patient having been put under the influence of chloroform, incision was made extending from the point at which the last tapping was performed, and from which the discharge was still issuing, about an inch below the umbilicus to the symphysis pubis. The opening into the peritoneal cavity was commenced below, and extended upwards, so as to be certain not to cut into the tumor, which there was every reason to believe was adherent round the orifice of the last tapping. As a rule, it is advisable to open below when the above condition is not present. The interval between the peritoneum and the tumor is much more easily found below, where the abdominal walls are reflected from the margin of the tumor to the pubes, than above, where tumor and abdominal walls are closely applied. When the peritoneum was slit open the expected adhesions were found to exist, but they were easily torn loose. Spencer Wells' large hollow trocar and canula, with gutta-percha tube attached, was then plunged into the tumor through the fistula; but so very much softened had the adjacent portions of the cyst-wall become, that it tore like wet paper, permitting the glairy and semi-purulent fluid to flow over the tumor. This complication was promptly met, however, by pressure applied to the lateral abdominal walls covering the tumor, which effectually guided the wave of fluid through the lips of the wound. By this prompt action but little of the escaping fluid entered the cavity of the peritoneum. Most of the cystic contents were evacuated in this way. An immense quantity was thus expressed, most of the other large cysts seeming to communicate with this opening. Indeed, at the last tapping a long canula and trocar had been used and pro-

jected in several directions, with the view of effecting just such a communication in order to make the tapping the more effective. After the fluid ceased to flow, the usual exploration was made, and the tumor was found tightly and extensively adherent to the abdominal walls on each side. The mass was still so large that it became at once evident that an extension of the incision in the abdominal walls would be required. The incision was, therefore, at once continued upwards and around the umbilicus to about two inches above that point. It was then found that there was also one point of adhesion to the omentum. This was easily separated, and so were the far more extensive lateral connections already mentioned. In performing this part of the operation, particular care was taken to effect the separation at the expense of the cyst-wall, rather than the normal tissues; and the separation was effected with much less trouble than had been anticipated. The tumor was then turned out of the abdomen, and found to be connected with the right broad ligament, by means of a pedicle about two inches broad and about three-quarters of an inch thick. It was quite long enough for clamping, and one of Mr. Spencer Wells' clamps was provided, in case enucleation, which had been determined on, was found inadvisable. Insinuating the index finger through the middle of the pedicle where it joined the tumor, the operator succeeded with perfect ease in carefully peeling each portion with its vessels from the surface of the former, and in a very short time the whole mass was everted without the loss of half a drachm of blood, and the shreddy pedicle was dropped back into the abdomen. There was some little hæmorrhage during the operation, but it was mostly venous and from the abdominal walls, the veins in that position having been considerably distended, probably from the pressure of the tumor on the ascending cava. What fluid and blood had settled into the pelvic and abdominal cavity were carefully sponged out. The womb, the remaining ovary, and the other parts were examined and found perfectly healthy; and the wound was closed by silk sutures extending through

all the thickness of the abdominal parietes. The line of incision was then glued up with Richardson's colloid styptic; the abdominal walls were supported with long strips of adhesive plaster running across the wound, and extending well round the flanks, and the line of incision was covered with a piece of lint soaked in carbolic oil (one part carbolic acid to seven of olive oil).

The patient was then conveyed from the operating table and placed on her back in bed.

She recovered readily from the chloroform, and did not seem to suffer any marked degree of surgical shock. Pulse, one hour after operation, 120; skin almost normal; mental condition natural.

Tumor weighed, after evacuation of fluid, 16 lbs.; estimated weight of fluid lost during operation, say 8 lbs.; total estimated weight, 24 lbs. Examination by microscope and otherwise shows usual structure of the multilocular ovarian tumor.

The patient progressed favorably. On the tenth day the stitches were removed; union firm along the whole line of incision, except at one point, where a little suppurative action had occurred. An alum wash reduced this in a day or two. An abdominal waistcoat was applied to support the line of adhesion.

December 1*st*.—Progress very rapid and uncomplicated; patient sat up on the thirteenth day in bed, and was about her room on the eighteenth day. Afterwards continued to improve on cod-liver oil, quinia, and iron. A dull pain in the lower abdomen, felt after the operation, disappeared by degrees. She fattened remarkably, and on the fortieth day menstruated.

At the present writing, more than four months since the removal of the tumor, she is in perfect health.—*Amer. Jour. of Med. Science.*

Art. III.—Babies and Beef-Tea.

We have long thought that the statistical patriots were on

the wrong track in their perennial lamentations over the decadence of our native population, in so far that they are continually urging for the birth of more children. From our point of view it is much more decisive in the increase of a people how many infants live than how many are born. Moderate-sized families of strong, healthy, well-trained children we hold to be of much more value to the State than great litters of under-nourished babies—early candidates for the grave-yard.

It is, therefore, with great pleasure that we see our Obstetrical Society of Philadelphia, Pa., instead of fulminating anathemas, devoting its attention to the reduction of infant mortality. Under its direction there have been recently issued special rules for the management of infants during the hot season, in a little pamphlet, which ought to be, and we believe it is to be, scattered broadcast throughout our city.

The rules, themselves, are excellent, and worthy the array of names by which they are signed. Unfortunately, in one of a series of receipts added to them there is a very serious misstatement, which, as it supports a popular error, and relates to an intensely practical point, suggests a comparison between the committee and the famous cow that gave a good pail of milk, etc.

We do not propose to insult the intelligence of our readers by offering proof that beef-extract and beef-essence contain at most only a homœopathic allowance of nutriment; yet constantly mothers, nurses, and, we may add, even doctors, are dosing with these preparations children and adults, under the delusion that they are feeding them; a delusion which is already sufficiently chronic in most of the individuals afflicted thereby, but which we fear will be rendered hopelessly incurable by the assertion of this learned committee, that beef-tea, when made in accordance with a certain receipt, contains the whole nourishment of the beef. There is, undoubtedly, a difference between beef-tea and beef-essence; but, as this is not distinctly stated in the pamphlet of the Obstetrical Society, the assertion alluded to will certainly confirm error in the mind of

the popular audience to which the rules are chiefly addressed.

More to the point, perhaps, is the fact that the statement of the committee is very far from being true as regards beef-tea. The receipt may be found in another column of our issue. It is very evident that, when beef-tea is made in accordance with its directions, only such matters as are soluble in water are extracted from the meat, the fibrin, the muscular fibre, etc., being left behind, whilst the kreatinin, carnin, and other innutritious products of destructive metamorphosis, with the inorganic salts, are dissolved.

It is equally evident that the only nutriment contained in beef-tea is albumen. We have had a pint of the beef-tea carefully prepared according to the receipt of the committee, and on adding to it nitric acid obtained precisely one hundred and ninety-one and a half grains of precipitate. The truth of the following formula consequently rests upon the official declaration of the Philadelphia Obstetrical Society: Albumen ℥iij= Beef one lb.

We do not mean in any sense to deny the value of beef-tea when properly used. We do mean to insist that as a food it is an extremely wasteful preparation, and that to tell the poor of the community that they are giving to their children all the nourishment of the beef in giving beef-tea is to practice unwittingly a great fraud upon them.

Moreover, we desire to call the attention of physicians to the fact, that beef-tea contains so much potash that when given in large quantities it is a medicinal agent and can only be intelligently employed with a direct appreciation of this fact.

According to Lehman's analysis, a pound of beef contains about forty grains of potash; and, as this is all extracted by the water, the beef-tea of the Society contains at least one-fifth as much potash as albumen.—*Phil. Med. Times.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

Treatment of Spermatorrhœa.—In a clinical lecture delivered by M. Mallez upon this subject, and reported by M. Jardin in the "Mouvement Medical," he observes that the condition of the spermatic ducts and passages should be first carefully investigated, in order that the slightest departure from a healthy condition may be observed and treated; the volume of the prostate should be carefully noted, the anus and the rectum should be explored, to ascertain the presence or absence of fissures, worms, etc. Attention should also be paid to the state of the bowels, daily evacuation of their contents being insisted on, and with facility; care should be taken to discover, by direct inspection, whether the proportion of prostatic fluid does not form by far the larger part of the fluid emitted. To ascertain the presence of spermatozoa and the degree of their vitality, minute interrogatories should be made as to the habits of thought of the patient, his mode of life, and the causes which may have predisposed him to the disease. The strength of the patient should be judged of by his mode of walking and by the dynamometer, and it should be found out whether the emission occurs only during sleep, during violent exertion, or during micturition. M. Mallez regards the alkaline bromides as occupying the first position in point of importance in the treatment of this affection, since they have a double action both upon the spinal irritation and on the local sensibility. The preparation he prefers is that suggested by M. Pelisse—namely, desiccated bromide of potassium, an ounce; tolu water, ten ounces; of this, four desertspoonsful, containing about a drachm of the salt, can be taken per diem. The administration of the bromide should precede any local treatment, and may be continued from eight days to two months without harm. After the lapse of ten or twelve days, continuous currents should be applied, though there is some difference of opinion in regard to the

manner in which they should be applied. M. Mallez himself prefers to make use of descending currents, passing down the whole length of the spinal cord, from the occipital to the lumbar region: the source of the electricity being from eight to ten elements of a Gaiffe's pile, with chloride of silver. After using this for eight or ten days, the direction of the current may with advantage be reversed. Valerianates of ammonia, of zinc and quinine, M. Mallez has found of less service than the foregoing plan. The application of cold water douches to the belly should not be indiscriminately recommended, as they occasionally seem to excite rather than to repress the discharges—*Le Mouvement Medical.*

Fracture of the Clavicle treated by placing the Arm behind the Back.—A patient was recently under M. Broca's care, who had fractured his left clavicle by a fall, near the middle of the bone. The fracture was oblique, from above downwards and from without inwards, the fragments riding over one another to a considerable extent. Various plans of treatment were tried, but without perfecting permanent reduction into a good position. At length, calling to mind a communication made last year by Dr. Michel to the Société de Chirurgie, M. Broca placed the limb in a semiflexed position behind the back, when the most perfect confluence of the fragments occurred. The arm was fixed in this position by a bandage, and kept in it for eighteen days. At the expiration of this time the bandage was removed and the arm set at liberty. When it was found that the parts were sufficiently consolidated to prevent any likelihood of displacement, the limb was brought forward and kept immovable in a sling for a few days longer. This method of treatment has been regarded as excessively painful, but in this instance the patient only complained of the inconvenience and pain for the first twenty-four hours. At the same time it must be stated that he was a man of considerable nerve. Immediately after his entrance into the hospital, he several times raised the hand to the head, giving a fresh demonstration of the possibility of movement with fractured clavicle. The result

was so good, says M. Broca, that had the patient been a lady, she might have worn a low dress without any disfigurement being observable. The proceeding of placing the hand behind the back in the treatment of fractured clavicle is not quite new, for M. Grout is cited by M. Malgaigne as having adopted it. M. Broca does not think this plan is applicable to all cases, since it compels the patient to sleep on the opposite side; but he agrees with Malgaigne in believing that in some fractures of the clavicle, the broken ends of the bone can only be brought into apposition by placihg the upper extremity in special and peculiar positions, which may be quite different in different instances.—*Jour. de Medicine.—London Prac.*

The Value of Carlsbad Waters in Affections of the Liver.—Dr. Stephen Ward, after describing the favorable situation and surroundings of Carlsbad, states that the Sprüdel Spring has a temperature of about 165° F., and from twelve to forty-eight ounces of the water are drunk by the patients before breakfast, or between 5 and 8 A. M. The Sprüdel water, he goes on to say, contains, in sixteen ounces, from eighteen to twenty grains of sulphate of soda, about ten grains of carbonate of soda, and a little carbonate of lime and carbonate of iron. It is also charged with a certain amount of carbonic acid gas. In regard to the therapeutical action of a water the principal ingredients of which are sulphate and carbonate of soda, it would appear that in consequence of the power of the former to retain the water contained in the intestines, it loosens and carries down dried fæcal masses, tenacious mucus, bile, etc. The alkaline carbonate would act by neutralizing free acids in the alimentary canal, by exciting the secretions of the intestinal glands, and it would also assist in determining the diuretic action of the water. The Carlsbad waters do not act so rapidly or produce such fluid stools as the Püllna and other waters in which sulphate of magnesia forms a prominent ingredient. They, however, even when first taken, induce an effective emptying of the bowels, causing pulpy, slimy stools of dark color and offensive odor. The action is as a rule perfectly easy.

If taken in excess, teasing watery stools may result. Purging is not essential to their favorable action.—*Lancet*, July 5, 1873.

Diagnosis of Aneurism from Abscess.—Dr. Stephen Smith, of New York, gives the following as the scientific tests employed for the purpose of diagnosing aneurism: 1. A tumor in the course of an artery. 2. Pulsation synchronous with the heart, and of an expansive character. 3 Cessation of pulsation when the artery is compressed on the cardiac side with partial subsidence of the swelling. 4. A bruit heard with the pulsation. 5. Exploration. In regard to these several points he remarks: (1.) That a tumor situated in the course of an artery is of frequent occurrence without the presence of aneurism, so that in itself the symptom is of no positive value. (2). Pulsation may or may not be present when aneurism exists; to be of value when aneurism exists, it must be expansive; and yet expansive pulsation may be present in an abscess surrounding an artery, and no aneurism be present. (3.) Cessation of pulsation will occur in any tumor or swelling situated over an artery when compression is made on its cardiac side; subsidence of the swelling on pressure may not occur in aneurism, and may occur in abscess. (4.) A bruit may or may not be present in aneurism; when present, it is variable in character; it may be present when any tumor or abscess is situated over an artery. (5.) An exploratory puncture may fail to give exit to blood in an aneurism, and may give a jet of blood in various kinds of tumor. From all of which it appears that the several scientific tests or symptoms of aneurism are extremely variable and of doubtful value when present. The various phases of growth of an aneurism may assume all the most marked features of an abscess and lose its own characteristic symptoms. Thus an aneurism may form without pulsation or a bruit, and may have heat, pain, and fluctuation; while an abscess may form without pulsation and a bruit with an inconsiderable amount of heat and pain. Again, an aneurism may form with an abscess overlying it, and the symptoms of the two may be-

come inextricably intermixed. Finally, an abscess may form which subsequently opens into an artery, and thus suddenly assumes all the apparent conditions of an aneurism. Dr. Smith then proceeds to give a series of very interesting cases culled from recent medical literature, in which many of the difficulties above alluded to in establishing a correct diagnosis were present.—*Amer. Jour. of Med. Science,* April, 1873.

The Administration of Perchloride of Iron.—Delicate patients, says Dr. Herbert Snow, very frequently object to the astringent metallic taste long remaining in the mouth after the administration of tincture of perchloride of iron, the flavor of which is but very imperfectly disguised by the syrup or spirit of chloroform with which it is usually ordered. It is worth knowing that the substitution of a small quantity of glycerine (about half an ounce to an eight ounce mixture) will altogether obviate this inconvenience.—*British Med. Jour.*, June 28, '73.

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—CASE OF LITHOTOMY. By Drs. BROWNE AND ISHMAEL, of Mt. Olivet, Robertson County, Ky.

Woodson M. Jackson, aged twenty-eight years, applied at our office, in Mt. Olivet, Ky., for advice, January 10, 1873; having been sent from Mt. Sterling, Ky., by Drs. Hannah and Guerant to Dr. Shackleford, Sr., of Maysville, to be lithotomized. Dr. S. sounding him, failed to detect any calculus in the bladder, and sent him away, with directions to return in ten days. Sounding followed by rather active cystitis, which deterred patient from returning to Dr. S., and under the circumstances we were consulted by patient. On cautious exploration of the bladder with a No. 4 sound, we readily detected a calculus;

diagnosed to be double. After subjecting our patient to a preparatory course of treatment for twenty-one days, we proceeded on February 4th, after anæsthesia, to operate after the usual plan of lateral lithotomy; removing the calculi, weighing in the aggregate three and a half ounces. Calculi, ammoniaco magnesian. No urine escaped through the wound after the first six hours succeeding the operation. Patient made a good recovery, without any untoward symptoms. The wound was entirely healed by the twenty-seventh day after the operation; and now, the one hundred and tenth day, he is able to make a hand on the farm. The calculus evidently (from shape) descended into the bladder, though the right ureter, some fifteen months before operating, as a single stone, and must have been fractured in first sounding by Dr. S.

OVARIOTOMY.

Case.—Multilocular semi-solid ovarian tumor; operation; incision five and a half inches in length; recovery.

February 25, 1873, Miss H. of Robertson county, Ky., sixteen years old. Menstruation commenced sixteen months previous to operation, and although rather profuse and somewhat painful, yet she has been regular. Nine months since a general enlargement of the abdomen was observed, creating a suspicion of pregnancy. The swelling has gradually increased, and latterly emaciation has supervened. Fluctuation not very distinct. Os uteri thrown back; lower border of tumor occupies superior strait of pelvis. Diagnosis; multilocular, semi-solid tumor of left ovary. Prognosis; recovery.

Ovariotomy was performed by Drs. Browne and Ishmael February 25, 1873, anæsthesia by chloroform. Incision three inches and a half in the linea-alba down to the tumor. The few slight parietal adhesions were broken down with finger, and after reducing the volume of tumor by the evacuation of the cysts by the use of Mears' trocar, it was found necessary to increase the incision to five and a half inches in length. The removal of the tumor was accomplished with no unusual trouble, the pedicle secured by clamp and divided, and the incision

closed by seven wire sutures. No vomiting during or after the operation. The tumor, which was of the left ovary, weighed eleven and a half pounds. Patient reäcted well from the operation; the incision healed kindly; the clamp being removed on the seventh day.

May 23, 1873.—At the date of this writing, eighty-five days after the operation, the patient is enjoying fine health, and has menstruated twice; being free from pain at each flow, something entirely new for her.

ART. II.—A CASE OF SUPPOSED CEREBRO-SPINAL MENINGITIS OF THE FULMINANT FORM. By THOMAS J. TURPIN, M. D., Forkland, Greene County, Ala.

Ben Jackson, a negro man, aged about fifty-three years, was suddenly seized, on the 20th day of February, 1873, at 10 o'clock A. M., with nausea and vomiting, followed by convulsions, and pain in head and back of neck. He soon became delirious, articulating incoherently. There was great hyperæsthesia of the skin, shivering being produced by the slightest touch. The pulse was rapid and compressible; the eye was motionless and insensible to light; the respiration was feeble and frequent. There was rigid contraction of the muscles of the neck and back, producing a marked degree of opisthotonos. Occasionally, there were convulsions, tetanoid in character, and death occurred at 2:35 P. M., just four hours and thirty-five minutes from the commencement of the attack.

The treatment consisted in the application of cold water to the head, blisters to the back of neck, and the administration of tincture of gelseminum, in two doses of forty drops each, two hours elapsing between the doses.

In making the post-mortem examination, I was assisted by my friend, Dr. Z. M. P. Inge. The examination was very thorough; the brain and spinal cord, and the thoracic and abdominal viscera being carefully inspected. No appreciable lesions were discovered. There was nothing whatever which could, in

the most remote degree, explain the cause of death. The lungs, heart, liver, spleen, and kidneys were perfectly healthy. The alimentary canal was examined throughout its entire length, and found in a normal condition. The brain and spinal cord were normal in appearance and consistence. No evidences of congestion or inflammation of these organs, or of their membranes could be found.

Remarks.—I have no doubt that this was a case of cerebro-spinal meningitis of the fulminant form, as described by Radcliffe in "Reynold's System of Medicine." The treatment was productive of no good whatever; and, indeed, there is no plan of treatment which medical science could suggest that would, in my opinion, have proved of the slightest benefit in this case. In the fulminant form of cerebro-spinal meningitis, drugs or therapeutic measures of any kind are simply valueless. In the language of the learned Professor Edward Warren, of Baltimore, it is a disease that "strikes without warning, and kills almost with the certainty and celerity of the deadliest poison." The patient was a very stout, healthy man, and up to the very hour of his attack had pursued his duties as a farm laborer in a faithful manner and without complaining of being in the least unwell.

I put this case upon record, simply as being an interesting one, and of some possible value in a medico-legal point of view.

ART. III.—OBLIQUE INGUINAL HERNIA—A CASE IN PRACTICE. By THOMAS HILL, M. D.

On the evening of the 28th of May, 1873, I was called to visit Mr. E. G., aged twenty-eight, a strong, muscular young man, a miller by occupation. Found him laboring under oblique inguinal hernia—strangulated—having become so twelve hours previously. This was a case of congenital hernia, for which he wore a truss until he was ten years of age, when he abandoned it. When asked why he did not send for me

sooner, he replied that it had frequently come down before, but that, on the application of spirits of turpentine, in an hour or two he could return it himself. On inspecting the parts, found a tumor, occupying the scrotum, about the size of a hen's egg, with apparently a hard ridge, extending into the abdomen through both inguinal rings, about the size of and apparently as hard as my thumb. On endeavoring to make taxis, he screamed with pain, and said he could not stand it; complaining of most excruciating pain in the bowels, and had vomited a great deal before I arrived. I put him under the influence of chloroform, and endeavored to reduce the hernia, but without success. I then sent to a neighbor for a supply of ice, and ordered a pot of coffee to be made as strong as possible, which I began giving him every fifteen minutes, by the cupful. After the third cup, I found the tumor to be softer; and the ice having arrived, I applied a lump of it, and gave another cup of coffee. In the course of another half hour, on making taxis, much to my relief and the gratification of the patient and friends, the portion of protruded bowel returned with a thud, which could be heard all over the room. A dose of morphia was then administered, and he had a good night's sleep. I think in this case the coffee certainly did the work, and believe that had I made the attempt, the hernia could have been reduced even before I applied the ice. This is the second case in which I have seen the coffee used with success.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Southwestern Kentucky Medical Association.

The following members of the Southwestern Kentucky Medical Association met in the city of Mayfield, Graves county, on Monday, May 26, 1873—viz., J. W. Thompson, E. B. Richard-

son, and B. Tauber, of Paducah; A. Vories, Hickory Grove; J. A. Ryburn, Viola; J. J. McGee, Symsonia; John Anderson, Fulton Station; D. R. Merritt, Fancy Farm; R. T. Hooker, Lovelaceville; George Beeler, Clinton; P. G. Reed, Boaz Station; J. W. Singleton, Florence Station; J. D. Landrum, W. A. Boyd, Butler Boyd, A. J. Watson, and J. L. Dismukes, of Mayfield.

The Association was called to order at 9 A. M., in the Masonic Hall, Dr. J. W. Thompson in the chair. The minutes of the last semi-annual meeting were read and approved.

New Members.—The names of the following physicians were referred to the Committee on Credentials, consisting of Drs. Landrum, Watson, and Anderson, as applicants for membership in the same Society—viz., Dr. E. G. Thomas, Exchange Post-office, Marshall county; R. M. Shelton, Blandville; A. B. Shelton and R. D. Kornegay, Boydsville; James Hendley, Farmington; S. G. Matthews, Brewer's Mill; W. E. Boswell, Lowe's Station; H. T. Taylor, Fulton Station; Felix G. Seay, Clinton and A. B. Browne, Mayfield. The committee reported favorably, whereupon they were unanimously elected as members of the Association. Each one came forward, signed the constitution, and paid the admission fee.

On motion of Dr. Watson, it was resolved that the clergy and the legal profession be invited to occupy seats in the Association. Drs. Watson, Landrum, and Dismukes were appointed a special committee of invitation in this matter.

Reports of committees being in order, Dr. B. Tauber read an interesting paper on "Peri Uterine Cellulitis." Referred to the Committee on Publication, composed of Drs. Beeler, Hendley, and McGee, with instructions to publish the same.

Dr. J. W. Thompson then made some useful and practical suggestions in regard to the proper use of the *bandage* in the treatment of rheumatism, with remarks on the mercurial plaster in rheumatic affections.

Adjourned to meet again at 2 P. M.

AFTERNOON SESSION.

The President, Dr. Thompson, appointed Drs. Beeler, W. A. Boyd, R. M. Shelton, John Anderson, and E. G. Thomas (one from each county) as the Committee on Nominations.

Dr. Thompson (with Dr. Hendley in the chair) read a "Report on the Treatment of Syphilis." Dr. T.'s paper contains much practical information upon the disease of which it treats. Referred to the Committee on Publication, with instructions to publish.

Officers for the Ensuing Year.—The following report of the Committee on Nominations was received at 3:30 P. M.: Dr. J. L. Dismukes, Mayfield, President; Dr. John Anderson, Fulton Station, Senior Vice-President; Dr. J. W. Singleton, Florence Station, Recording Secretary; Dr. Bernard Tauber, Paducah, Treasurer; Dr. E. G. Thomas, Exchange Librarian. The report was unanimously adopted by the Association, and Dr. Dismukes took the chair after some brief and pertinent remarks made by Dr. Thompson, the retiring President.

Reports and Discussions.—With Dr. Anderson in the chair, Dr. Dismukes read a report upon "Metastatic Abscess." Referred to the Committee on Publication.

Dr. J. J. McGee gave the Society the benefit of a verbal report of a remarkable case of extra uterine pregnancy that recently came under his care; Dr. Smith of Benton, and Dr. Singleton, were his consulting physicians. Some of the bones of the dead fœtus came away *through the rectum*; the patient recovered. Dr. McGee was requested to have a full written report ready for our next meeting. This he promised to do.

Cerebro-Spinal Meningitis.—At the conclusion of the discussion arising from the report of Dr. McGee's case, the subject of cerebro-spinal meningitis was taken under consideration.

Dr. R. M. Shelton has had about fifty cases of this terrible disease in his practice during the past winter and spring, and Dr. Beeler has had many cases also. Neither of the gentlemen professed to have any distinct and clearly defined knowledge of the cause of the malady in question. They think,

however, that the *action* of the cause, whatever it may be, is intensified by the presence of malarial poison in the human system. Neither Dr. B. nor Dr. S. have any *positive* confidence in the use of any one or more remedies in the management of the complaint. The opinion was evident that the depletory or exhaustive system of treatment commonly applied to acute inflammations in general, is calculated to do harm instead of good in cerebro-spinal meningitis. Drs. Beeler and Shelton are in favor of free blistering in each case, as soon as possible, the object being to relieve local congestion and thus help the patient to live awhile. Both had tried almost everything that had been recommended in the management of the disease. Dr. Shelton has some confidence in quinine to mitigate the severity of the cold stage which occurs once in twenty-fours in the most favorable cases, but does not consider it a curative agent by any means. He has used gelseminum with apparently favorable effect for the time being. Dr. S. seemed to agree with Dr. Beeler, that the object of the physician should be, in this terribly fatal complaint, from the first, to take decided steps to support the powers of the constitution, to husband the vital strength, and meet the distressing symptoms as they occur from hour to hour, and day to day, avoiding as far as possible the use of all remedial agents which are calculated to produce exhaustion.

Dr. Landrum and others participated freely in the discussion on cerebro-spinal meningitis, and much was said by the members of a suggestive character that may improve our manner of treating the disease in Western Kentucky.

Dr. E. B. Richardson then read an excellent paper on the "Use of the Calabar Bean and Atropia in certain Affections of the Eyes." Referred to the Committee on Publication with instructions, etc.

A discussion on Cholera followed the reading of Dr. Richardson's essay, in which Drs. Thompson, Richardson, Beeler, and others, took part. Nothing new was advanced on the subject. Great confidence was expressed in the administration of calo-

mel as early as practicable upon the occurrence of the *rice-water* discharges from the bowels.

Adjourned to meet on to-morrow at 7 o'clock A. M.

TUESDAY'S SESSION.

The Association convened at the appointed hour.

Drs. Thompson, Richardson, Boyd, Tauber, McGee, and Singleton were requested to prepare papers on subjects of their own choosing.

Dr. Thompson called the attention of the Society to the use of hot water in the treatment of various uterine diseases, recommending it very highly.

The Association moved in a body to the Presbyterian Church at 8 A. M., to hear the address of the retiring President on "The Mutual Obligations which exist between the Public and the Medical Profession." Dr. Thompson had a good audience, and made a lasting impression upon the minds of all who heard his excellent speech.

A copy of his address was requested by the Association for publication. (It has since been published in the "Daily and Weekly Kentuckian" of Paducah, and widely circulated over Western Kentucky for the instruction and benefit of all concerned.—REC. SEC.)

Dr. Tauber followed Dr. Thompson on the question, "Why should not Women Practice Medicine?" Dr. Tauber interested his auditors very much on this new subject, and he deserves praise for the ingenuity of his argument in support of female doctoring. Referred to the Committee on Publication with instructions, etc.

Dr. Singleton closed the public exercises of the day with a lecture on the "Divine Philosophy of Medicine," which was referred to the Publishing Committee.

The Association then returned to Masonic Hall at 9:30 A. M.

The thanks of the Society were voted to the Masonic Fraternity for the use of their elegant hall, and to the Presbyterian Church for their house of worship, and for the hospitality of the citizens generally.

The Recording Secretary was instructed to send the proceedings of this and all future meetings of the Southwestern Kentucky Medical Association to the "Richmond and Louisville Medical Journal" and the "American Practitioner," dividing also the papers that may be contributed to the Association between the two medical journals mentioned.

The President appointed Drs. J. W. Thompson, F. B. Richardson, and B. Tauber as the Committee of Arrangements to prepare for our next meeting, in the city of Paducah, on the second day of the Fair, in October next.

Adjourned, with peace and harmony prevailing.

JOHN L. DISMUKES, President.

J. W. SINGLETON, Recording Secretary.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

VIENNA, July 10, 1873.

My Dear Dr. Gaillard:

In all my previous visits to the Old World, the interests of my beloved profession have always claimed my close attention. My first embraced a period of over two years, during which occurred the revolution of the three days of July in Paris in 1830, and in November of that year Poland attempted to throw off the oppressive yoke of Russia. As the gallant Pulaski fell at the siege of Savannah, in my own native State, during the revolution of 1776, (and no man knoweth of his grave to this day,) I felt called upon to offer my feeble services in her behalf. Not knowing the language, I served as surgeon to a hospital in Warsaw, where having obtained the Cross of Honor, was promoted to Surgeon-Major of the Fifteenth regiment, and chief of the ambulances attached to General Turno's division. When Warsaw fell by assault, 7th of September, 1830, I was impris-

oned by Prussia for thirty days under the plea of cholera, and did not reach the United States until 1832. It was during this sojourn in Europe that I met Sir Astley Cooper, Mr. Abernethy, afterward Sir William Lawrence, and others of London; Mr. Carmichael, Mr. McNamara, of Dublin; and Larrey, Dupuytren, Boyer, Richerand, Roux, Trousseau, Rostani, and at subsequent occasions, Nélaton, Velpeau, Ricord, Larrey, the son, etc., etc.

Last October, in rapidly descending a stairway, the heel of my boot caught on a step, and I was pitched forward and downward some eight or ten feet. The railing of the banister was grasped at but not seized. I was momentarily conscious of what a terrible blow was to be received, threw up my hand to protect the face and head, and in an instant afterward, was insensible. The last recollection, and that not very distinct, was the sound made by striking the floor. Recovering in a few moments, and remembering the excellent advice of my friend, Professor Hodgen of the St. Louis Medical College, in an article published on the treatment of recent injuries, not to raise or disturb a patient too soon when the brain was disordered, I plead with my family and friends not to lift me up, but simply to straighten out my limbs. The principal injury sustained was partial paralysis to the soft palate, due, as was supposed, to the fact that the resistance offered by the hard floor (not carpeted) passing through the uplifted hand, cranium, brain, and palatine bones was expended on the soft, floating palate. I could operate, did even perform lithotomy before the class, but could not lecture; and experienced difficulty in swallowing food not well insalivated or moistened. This, with some contusion on the wrist and occasional pain behind the right ear and down the neck (the face being turned at the fall to the left side) with some slight disturbance of the brain, were all that I had hoped would remain to remind me of the dreadful blow. It is probably right to a proper understanding of the case, though I dislike to write so much about myself, to state that my weight is about two hundred pounds, am over six feet high, sixty-seven

years old, born on a rice plantation, never used whiskey or tobacco, and have scarcely ever been sick.

At the close of the last course of lectures, after a very hard day's labor and much mental excitement, while standing up giving directions to the son, a colored man, whose mother's breast had been removed before the class, I suddenly lost all consciousness and fell in a fainting state upon my face. It was this which induced me to seek change and relaxation by this seventh visit to Europe. So far, however, the care and anxiety of a large party leave but little time to devote to hospitals, visiting professional friends or collating medical facts. Indeed, this letter is one of apology for any expectations you may have had (the right it may be) created, by my name being published as a collaborator to your excellent Journal; now acknowledged to be the best monthly in the Profession. Traveling with eight ladies, and but one of them comprehending a single foreign language, I am in the position to appreciate the humane decision of the Irish judge, who, when the bigamist, after conviction, was proven to have a third wife, let him go free, proclaiming that that was too much for any mortal man.

In order to be certain that there should be no exposure to any one under my care taking cholera, I wrote in advance to Professor Theodore Bilroth, U. D., and received a prompt answer while in Munich. In calling upon him, soon after our arrival, we found him hard at work by gaslight, though it was not yet quite dark.

Yesterday, at the Exposition, Dr. Taylor, the Orthopedist of New York city, (whom I met in Paris in 1867, where he obtained the prize for his method of treating spinal affections,) met the professors of surgery and others of this city. There, in a public hall, what he explained in English, Dr. Bilroth translated in German for his friends. I am pleased to state our countryman made a most favorable impression and secured the hearty commendation and thanks of all present. What struck them most was the facility with which, by a simple key, the same apparatus was made to fit almost any child. When some

objected to the chin-piece, in diseases of the cervical vertebræ, preventing the patient taking food, and Dr. T. showed how the alligator opened his mouth,by elevating the superior maxillary, which Dr. B. translated crocodile, there was great satisfaction expressed, and quite a laugh at the expense of the objectors.

Dr. Bilroth is now forty-four years old, is a large, powerful, and very handsome man, in the prime of life. Speaks English well, has a fine voice, easy flow of language, and is no doubt eloquent on occasions. He came out of the late European war with more character than any European surgeon, and in my humble judgment is the *first surgeon now alive.*

Yours truly, PAUL F. EVE, M. D.

PARIS, August 7, 1873.

My Dear Friend, Dr. Gaillard:

Just as I supposed when I wrote you from Vienna, and where we found the imposition about equal to the Exposition, grand as that may have been, such has been my constant occupation that no medical notes could be written out. Should we have a good time at sea on our voyage home, it is possible that something more will be attempted for the Journal. At present it is proper only to give a brief notice of what has been seen to-day.

Called, by appointment, upon Dr. J. Péan, Chirurgeon des Hôpiteaux de Paris, with my son Duncan, student of medicine; we were taken by him, in his carriage, beyond the walls of Paris to his Maison de Santé, to witness, or assist, as the French say, in an operation for removal of the uterus. The patient was a large fleshy woman, about fifty years old, who for years had labored under a large abdominal tumor. It presented nearly the size at the full term of utero-gestation, projected more to the right than the left side, and reached above the umbilicus several inches. It was diagnosed to be of the fibro-cystic class, such as contained thick, viscid fluid.

The patient was placed on a narrow table of the Doctor's own construction, the abdomen exposed, and urine drawn off. The operator was seated between her thighs, with half a dozen

assistants, besides the one who administered chloroform, the anæsthetic exclusively used in this hospital. This was sprinkled from time to time on lint covered on one side by oil-silk. The pulse was not felt once during the two hours the operation lasted, but the respiration was attentively watched. This was well managed. Although the day was not cold, the sash was kept down, a door alone left open, and yet the room was small and occupied by some twenty persons. I never saw a greater number of instruments used in any operation, or the general preparation for one more complete. The *chirurgicum armentum* was immense.

The operation was well done, notwithstanding its duration. The line of incision was traced by ink, and extended from two inches above the umbilicus to the pubis. The dissection down to the peritoneum and exposure of the tumor was made by a master hand in surgery. The greatest care was exercised in preventing blood getting into the abdominal cavity, or the loss unnecessarily of a single drop of it. These struck me as the two great points in the operation—namely, to check hæmorrhage and avoid all sources of peritonitis. In delivering the tumor, the opening made had to be enlarged by scissors, while the mass was transfixed by very long needles, through the eyes of which strong wires were deposited in different directions, and these drawn upon pretty forcibly by assistants. It required considerable force to be extracted and then laid upon the now flaccid walls of the abdomen. The cysts contained chiefly gelatinous matter, not fluid enough in some of them to readily escape; so that punctures would not much have diminished the size of the growth. It proved to be a fibrous degeneration of the womb itself, involving the whole of the body of this organ, leaving only the os and neck unaffected. The ovaries with the fallopian tubes were also removed.

Another peculiarity of Dr. Péan's method is, that he does not excise the diseased structures at once, nor divide the parts by an écraseur, but cuts it away piece by piece, like the cutting off of beef-steaks; previously, however, preventing bleeding by

the stout steel wires, already alluded to, placed under the incisions and drawn very tightly by strong serre-nouds, knot tightners. In this way the pedicle of the tumor was diminished to about an inch, over which the sheet-lead was placed, having an opening in its centre, and the whole secured by a bandage. The wound in the abdominal wall was closed by alternately applying the interrupted and twisted sutures.

By a number of broad-bladed forceps, as soon as the peritoneum was laid open, its serous lining was gently seized and kept everted. The sponges too and napkins were of the finest quality. The operation altogether was a very tedious and trying one, requiring great patience, skill and caution in its performance, and these had their perfect work in the surgeon; who has already removed the uterus several times, partially or in its totality, by gastrotomy.

When I left Paris, the patient was reported doing well. Time is not given me to narrate what I saw too of Prof. Dolbeau this same day, and learned from himself the minutiæ of his new perineal dilatation as a substitute for lithotomy.

Au revoir. Your friend,

PAUL F. EVE, M. D.

SPARTA STATION, KY., August 16, 1873.

Dr. E. S. Gaillard:

Dear Sir,—I have had a few cases of cholera in my practice this summer, and I treated them with morphia and atropia, hypodermically, with the very happiest results.

Yours respectfully,

W. A. LINDSAY, M. D.

CAIRO, EGYPT, July 30, 1873.

Prof. E. S. Gaillard, Editor of the

Richmond and Louisville Medical Journal:

Dear Doctor.—Since my arrival in Egypt, I have received letters from a large number of my medical friends in America,

applying for positions in the Army of the Khedive. As it is impossible to write to each one of them, I take the liberty of asking you to publish this letter, as an answer to all who have written to me on the subject.

At this time there *are no medical vacancies in the Egyptian Army, and the Vice-Roy does not desire to engage the services of foreign surgeons.* Should there be a change in the policy of His Highness in this regard, I will announce the fact at an early day through your Journal.

Very truly yours,

EDWARD WARREN, M. D.,

Surgeon to the Staff of the Egyptian Army.

BALTIMORE, MD., 1873.

Dr. E. S. Gaillard:

The short paper on "Rœtheln," or German Measles, by B. E. Cotting, M. D., in the July number of your Journal, recalls to my mind an epidemic of this disease which I witnessed in Alabama during the winter of 1863–4. At that time I had never seen the disease (*to know it*), and had read no description of it, and confess that I was not a little puzzled to assign it a name. The first cases occurred among the negroes on a neighboring plantation, under the care of my neighbor, Dr. McGowan, of Bethel. In a casual meeting, he informed me that these negroes were having a species of relapsing measles; that is, in a few days after recovering from an attack of true measles, they would have a second attack of disease almost identical with the first, except in the intensity of the catarrhal symptoms, and invited me to visit them. I did so, and saw several patients in the same house, some of whom were undergoing the primary attack of true measles, and some lying close to them who had recovered from the first attack and were now suffering from the secondary one. The only difference I could detect in the characters of the eruption was, that of the spurious variety was more generally diffused over the whole surface, and was consequently more confluent than that of the genuine disease. I

learned from the Doctor that the initial fever was generally of shorter duration, sometimes scarcely preceding the eruption at all, and that the catarrhal symptoms were more various but less constant than in measles. I was exceedingly puzzled, but ventured the opinion that the secondary disease was roseola. When, however, about two months afterward, I witnessed these two same diseases going through a white family in the neighborhood, in which I could study the eruption under more advantageous circumstances, I became convinced that I was in error, as the disease certainly differed in many particulars from roseola, as I had been accustomed to see it. The difference was sufficiently marked also, notwithstanding some cases presented throat trouble, to distinguish it from scarlatina; and I know, besides, that my patients had already had that disease. I could not, therefore, assign to it the name of any disease with which I was familiar, and concluded that it was a distinct exanthem of probably rare occurrence, whose description had been omitted in our systematic treatises. The disease prevailed pretty extensively in the neighborhood, and finally died out. Yet, five years afterward, it appeared again in a single family, and notwithstanding my former experience, I made the mistake of hastily pronouncing the first case of it *scarlet fever*, so closely did it resemble that disease in the character of the fever, the eruption, and intensity of the throat affection.

I do not propose to describe the disease, as a tolerably good idea of it may be obtained from the article I have mentioned by Dr. Cotting; but what I wish to call attention to is this: I believe that this complaint is far more frequent than it is supposed to be, and that it has heretofore been mistaken for scarlet fever or measles, which accounts for the frequent cases recorded of persons suffering from one or both of these diseases a second time. As I have seen it, it has presented more or less decidedly the symptoms now of one, and again of the other disease; and it always resembles both in some particulars. For instance, the eruption *always* resembles measles in its more elevated and distinctly papular character, while it also resembles

that of scarlatina in its more general and equable diffusion over the surface, and brighter red color. Sometimes sore throat, more or less severe, is present, occasionally with, but frequently without other catarrhal symptoms; while in other cases the last only are met with, and in others still, both are absent. Hence it is apparent that a careless or not *very close* observer might readily mistake this disease for the one or the other accordingly, as these several local symptoms may predominate in any particular epidemic. When I recall to my recollection the numerous epidemics of scarlatina and measles I have witnessed, and remember how many of my patients were said to have had one or the other of these diseases before, and how many of them subsequently were thought to have them afterward, I am convinced that the medical attendants of these patients, and possibly myself among them, were deceived by this intermediate and *Janus-faced* disease.

It becomes important, then, in view of the possibility of a mistaken diagnosis, that we should not remit our precautions, and mothers should be advised not to neglect the means of guarding against exposing their young children to the contagion of scarlet fever, notwithstanding their medical attendant has pronounced a former attack to be that disease. In other words, mothers ought to know that there is an exanthematous disease so closely resembling scarlatina and measles, that competent medical men are liable to mistake one for the other, and should not therefore relax their watchfulness over their little ones, on account of any fancied security derived from a former attack.

JNO. S. LYNCH, M. D.

CHARLESTON, August 18th, 1873.

To Professor E. S. Gaillard, Editor of the "Richmond and Louisville Medical Journal" and Dean of the Faculty of the Louisville Medical College:

Dear Sir,—I am instructed by the Faculty of the Medical College of the State of South Carolina respectfully to call your attention to certain incorrect statements in the July number of

your Journal, under the editorial head, and to ask you to publish this reply in the forthcoming issue of your Journal, with the view of correcting these statements, so far as they affect the Institution we have the honor to represent.

The statements to which I allude are these: (I give them in the order in which they appear upon your pages.) 1. Upon page 152, near the bottom, you say, in connection with the fact that our College charges nothing for Professors' tickets, that we "*are found extracting from each student within five dollars of what he would be required to pay in those cruel Colleges at Nashville, Atlanta, Chicago, Cincinnati, and Louisville.*"

2. Page 153, near the top, you affirm that our action is "*under the guise of immense charity.*"

3. Page 154, second paragraph, you state that "*the sum charged*" (the $30 credited to our Faculty) "*goes into the pockets of the teachers.*"

4. Four lines further on, you allude to our present matriculation fee as being "*from six to seven times larger than is charged by other Colleges, or by this*" (our) "*College in times past.*"

Now, sir, to be brief, as far as your first statement is concerned, I will offer in evidence two of the schools you name, the catalogues of these schools being the only ones at present in my possession. Under the head of "FEES," in the catalogue of the Atlanta school, I find that the matriculation fee is $5. Professors' charges for the full course, $50; practical anatomy, $10; making a total of $65. Under the same heading in the Chicago catalogue, I find matriculation $5; dissecting ticket, $5; hospital ticket, $6; lecture fees, $50; making a total of $66.

Our charges for lectures, matriculation, and demonstrator's tickets amount in all to $30. The difference between $65 and $30 is, in our arithmetic, $36; while in your own, it is only $5.*

* There are erroneous assumptions here on the part of Dr. Kinloch. In the editorial to which he alludes, the references are to both the Mobile and

Your second statement that our action is "*under the guise of immense charity*," you give no authority for.* It is then only left for us to say that we have urged no such claim. Our action has been openly taken, after mature consideration, and for reasons clearly given elsewhere. We have no objection to state explicitly here that our objects are self-protection, the good of the Institution we represent, and a determination to oppose efforts made by yourself and others, in the delusive shape of beneficiary scholarships, to draw young men out of our loved

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Charleston Colleges; and not, as he writes, to the Charleston College alone. The editorial statement is correct, so far as the Mobile College is concerned; for it charges $35, while the Cincinnati Colleges charge $40. That is, the Mobile school charges (as was stated) $5 less than the Cincinnati Colleges, and from $5 to $10 less than many Western colleges. As the Charleston school is tenacious on this point, it should be stated that it charges actually $5 less than does the Mobile school; one charging $30 and the other $35. This, be it remembered, being done under the claim of free teaching; the course being called "a free course." A pecuniary paradox, which the public are left to construe as they please. The only just construction of this famous "free course" seems to be, that if a student does not care to pay $30 for his tuition, the "free course" presented to him is to leave and go elsewhere; if he stays, however, "the free course" means the payment of $30. This is like the Irishman's definition of freedom in America; "it means," said he, "that if I want a pair of shoes and can't pay for them, I have the freedom to go without."—Ed.

* When the Faculty which Dr. Kinloch tries so ingeniously to defend state, in their catalogue, that "the Faculty are honest in their convictions, that the advantages they offer for the acquirement of the essentials of a good medical education are not inferior to those to be had in the majority of the cities and colleges of this country," it is just to suppose that they are sincere, and mean what they say. When, therefore, they state that they give in "a free course," all for which other Colleges charge from $50 to $140, if their gift is not a charity, it is only by the assumption that the gift is of no value. Knowing the contrary of this, and the merits of this College, it is impossible to regard such a gift as otherwise than "an immense charity"; provided the course be "a free course." If it be not "a free course" the Faculty stands before the public as those "under the guise of an immense charity," charging each student $30 for his College fees. The Faculty can take their choice of these positions.—Ed.

but impoverished State.* We prefer to reserve an analysis of your very charitable offers, and to submit the action which the Trustees and Faculty of our Institution have thought proper to take, to the test of time. We may, however, remark, in this connection, that your numerous appeals in aid of your beneficiary scholarships, through the secular press, and above all, your remarkable selection of an instrument in the shape of the Hon. R. B. Elliot, the colored representative to Congress from the Third Congressional District (see your letter to him published in the "Daily Union Herald," July 30th, 1873), has more than surprised us. As a Carolinian, dispensing charity to your native State, it might have been as well to remember that you were dealing with a still proud although downtrodden people.†

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* How can sane persons thus be "deluded" as Dr. Kinloch says they are? The Louisville Medical College sends its catalogue to all students, and publishes its fees openly, justly, and honestly; in no place more conspicuously than in the Journal containing the editorial which Dr. Kinloch read and now bewails. Every student knows, that if he comes to this College, he pays, if a full-pay student, $125, and if a Beneficiary, $35. If students in South Carolina and elsewhere come to the Louisville Medical College, paying these prices, with from $50 to $60 additional for transportation to and fro, making in the aggregate, for full-pay students, $175 each, and for Beneficiary students, $85 to $100 each, while the Charleston and Mobile Colleges offer them "a free course" (which they repudiate) it is surely not the fault of the Faculty of the Louisville Medical College. If students prefer paying from $100 to $175 for a course in this College, when the Charleston and Mobile Colleges offer them "a free course," they may be "deluded," but the delusion increases every year, and they seem rather to like it. The only delusion in this case, however, is on the part of Dr. Kinloch and those whom he tries so hard to aid and defend. He and his colleagues will never keep students in "our loved and impoverished State" by these melancholy complaints. It is they who are "deluded," and not the students who refuse "a free course," to obtain one at heavy cost for fees and a double transportation. The statement that students are deluded in coming to a College, with whose fees they are perfectly familiar is an insult to the young men of the country; and a most unpleasant reflection upon the justice and common sense of the gentlemen making it.—Ed.

† As to the "appeals" mentioned, the Louisville Medical College, like all successful colleges, makes known its advantages through the secular press, and through every channel familiar to the public. So far from being ashamed to say, that it will charge the poor and unfortunate young men of the country $90 less than its usual fees, it is proud of having this known as widely as possible, and "the numerous appeals made through the secular press" would

Your third statement we contradict most feelingly, as well as knowingly, when we say that *not one cent of the money obtained from students, under our present system, goes into the Professors' pockets.** Our demonstrator of anatomy is paid a stipu-

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be more numerous, if this could be judiciously accomplished. As to the "instrument" (R. B. Elliott), concerning whom Dr. Kinloch so pathetically writes, it is only necessary to say that a kind, energetic, and earnest assistant of the writer, did, by mistake, during the writer's absence, allow a printed authority to accredit one young man from South Carolina to pass into the hands of the negro man mentioned. As soon, however, as this was known, the following notice appeared in the chief newspapers of South Carolina:

LOUISVILLE MEDICAL COLLEGE,

Louisville, Ky.

While this College receives and educates one young man from each Senatorial District of South Carolina, and any other State, charging him $90.00 less than its regular fees, it should be distinctly understood, that the Appointer and Appointee must be white men of unquestioned character and position, and that the appointee is unable to pay the regular fees of the College.

E. S. GAILLARD, M. D., Dean.

This advertisement will be generally read, and will, it is hoped, stanch the flowing tears of those who, like Dr. Kinloch, have been so overcome by the accident which rendered it necessary.

As to the intended slur of Dr. Kinloch upon the writer for his mortifying "a still proud although downtrodden people," it does not appear, by the record, that this statement can come with either good grace or good sense from Dr. Kinloch and his associates. While the writer, in behalf of this people, the people of his native State, was with her armies, and the armies of her sister States, in the field; while on the battle-field, he gave his right arm in support of those principles for which "this proud though downtrodden people," and their associates, resorted to arms, where were those who undertake to question his love and consideration for the citizens of his native State? These gentlemen were either in the quiet enjoyment of private practice, or snugly cuddled up in general hospitals in the rear; receiving $160 per month, with their food and quarters furnished. Whether their record shows that they have manifested a greater consideration, than has the writer, for the downtrodden people of his native State, the public can determine.

* This is the most refreshing piece of simplicity ever placed on record. The cause of this sad state of affairs is very simple; it is because, "by the present system," the class receipts have been so very small that it required all of these receipts to pay expenses. Had the class, however, have been of different size, after the paying of expenses, would the balance have gone "into the

lated sum; the balance of the money collected goes to defray the expenses of the College, which rest wholly upon the Faculty.

Your fourth statement, like your first, opens questions in arithmetic. Our present matriculation fee is $20. That of most other Colleges, as you affirm, is, as was our own in times past, $5. Please look at the multiplication table and determine the difference between $20 and seven times five dollars!*

Thus, according to our clear showing, your Journal, rather than our College circular, is the means for "*deceiving students.*"†

Professors' pockets?" If this College had obtained a class of two hundred students, or even one hundred, would not, as the result, a certain sum of money have gone "into the Professors' pockets;" and being thus deposited there, how could it be said, that their's is a "free course"; and that the Faculty give their services"; "expend their labor cheerfully in advancing the cause of medical education!!" That the Faculty were not remunerated for their "free course," was simply because it was, pecuniarily, a failure. On the confession of their Dean, "not one cent of money obtained from students, under the present system, went into the Professors' pockets!" It is sheer trifling to deny, that the receipts of this College, if it obtains a fair class, will go (as said in the editorial) "into the Professors' pockets," even though they state that their's is "a free course."—Ed.

* The writer of this letter has made so many blunders, that it would be cruel not to admit that he is partially right in this instance. The editorial stated that the matriculation fee was "six to seven times larger" than usual; this was in criticism of the fees of the Charleston and Mobile Colleges. The latter College charges $30 matriculation fee, or an amount "six times larger than that usually and formerly charged." This new system, whereby the Professors nobly charge nothing for their services, and "expend their labor cheerfully in advancing the cause of medical education," making, however, the matriculation charge represent both the tuition and matriculation fees is infinitely amusing. Polonius would say of such devices, "Aye! springes to catch woodcocks." When would the professional world cease its cachinnations, if the University of Pennsylvania announced that its Professors would henceforth give their services, "expend their labor cheerfully (sic) in advancing the cause of medical education," and yet charge $140 for matriculation! This would be a most ingenious piece of philanthrophy! So few, of course, would understand it!!! Ah, how general would be the regret, as each one exclaimed, fallen! fallen! the old school has "become as sounding brass, or a tinkling cymbal."—Ed.

† If any one can point to a line or a word which has ever had or could

If the allusion to the beneficiary system, in our College circular, has, like many a random shaft, flown straighter and penetrated deeper* than we divined or you desired, we nevertheless trust that, apart from the interest you feel in us as "friends of your boyhood and manhood," you will see the propriety of according to us that justice which truth has a right to demand.

Very respectfully, your obedient servant,

R. A. KINLOCH, M. D.,

Dean of the Medical Faculty Medical College of the State of South Carolina.

NOTE.—It is much to be regretted, that the distinguished gentlemen forming this Faculty caused this letter to be written. It has been met with every effort to be true and just; with every effort to sustain positions carefully and previously taken; with every effort to demonstrate the correctness of previous criticisms. Its representatives are believed to be wrong; honestly wrong, and sure to sustain failure. As has been previously and publicly stated, it is hoped that their school will reap a brilliant success in the future; but success under their present policy is believed to be impossible. Every Journal has a right to criticise public publications. This Journal has done so in a spirit of kindness and justice which, if (very naturally) unrecognized now, will be fully admitted hereafter. The distinguished author of this letter prefers to leave all "to the test of time"; a wise choice, for the verdict of such a tribunal is final and indisputable.—ED.

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have such an effect, he will receive the thanks and gratitude of its editor.—ED.

* The only reply that can be made truthfully to this, is that which was made by Webster to Hayne: "Whether his shafts would have caused rankling if they had reached, there was not quite strength enough in the bow." If the beneficiary system of aiding worthy and unfortunate young men in obtaining a medical education is ever hurt, it is only a demonstrable truth to all, that the bow must be taken by a different order of archers. This system, chiefly originated by the Louisville Medical College, and adopted now by many others, has been bitterly but impotently assailed by many. It is stronger to-day than ever, and all will find it impregnable; for it rests upon a basis which can never be subverted; the basis of justice.

FORKLAND, GREEN COUNTY, ALA., Aug. 12, '73.

Dr. E. S. Gaillard:

Dear Sir,—Seeing in the Miscellaneous Department of the July number of your Journal an extract entitled "Shifts of Obstetricians," recalls to my memory a little incident which occurred in Ashley county, Ark., in the practice of W. F. Page. Being one day many miles from his residence, he was called in, very unexpectedly to himself, to attend a case of labor. He found it necessary to perform craniotomy, and as it was too far to send for his instruments, he procured a bowie-knife and a cotton-hook (a very sharp, curved instrument used by the deck hands of steamboats in handling cotton bales), and with the aid of these he succeeded in operating, to the entire satisfaction of himself and his patient. The latter made a good recovery.

Yours truly, T. J. TURPIN, M. D.

LOUISVILLE, KY., August 29, 1873.

Dr. E. S. Gaillard:

Dear Doctor,—If you will observe the last paragraph in my article on the use of chloride of gold and sodium, you will discover a mistake, which will lead the reader into error. The article should read: "while the former is obtained by first converting four (4) parts of chemically pure gold into the chloride of *gold*, dissolving it in a small quantity of water, adding one (1) part of chemichally pure chloride of sodium, and evaporating the mixture."

Respectfully,

JOHN B. RICHARDSON, M. D.

NOTE.—A bad and much regretted error.—ED.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---HOR.

Influence of Coffee and Cocoa on Nutrition.—At a recent meeting of the French Academy of Sciences, M. Robuteau

read an interesting paper on the influence of coffee and cocoa upon nutrition. From the result of experiments which the author made with dogs, he arrived at the conclusion that cocoa and coffee are not mere stimulants like alcohol, but that they directly contribute to the nourishment of the tissues. A dog which was fed daily upon 20 grammes of bread, 10 grammes of fresh butter, and 10 grammes of sugar, died in twenty-nine days, obviously from defective nutrition; whilst a dog supplied with 20 grammes of cocoa, 10 grammes of sugar, and an infusion of 20 grammes of roasted coffee, was alive and healthy then, though after twenty-nine days.

M. Robuteau stated that the evil results sometimes experienced by the continued use of coffee are not felt if the coffee be properly roasted. When the berries are too highly heated, an injurious substance termed caffeine is developed in them.

We believe that a large proportion of the coffee used in Paris is prepared by subjecting the berries to a current of heated air or superheated steam. We wish that this kind of coffee were more frequently to be met with in these countries; for the infusion yielded by these semi-charred berries of the British grocer is often anything but a delectable beverage.

Another French *savant*, M. Charles Gazeau, still more recently communicated to the Academy of Sciences an account of experiments performed upon himself, the results of which appeared to show that cocoa decidedly increased the action of the heart and other vital organs. He believed, however, that the benefits derived from its use are more apparent than real, and that it acted by merely stimulating the vital powers, by causing a more rapid destruction or metamorphosis of tissue. This is the old theory as regards the action of both tea and coffee upon the animal economy. We can, however, hardly doubt the superiority of cocoa over coffee and tea, as a merely nutritive principle; for its chemical composition shows that it is rich in fat-forming and muscle-making materials. It is well known, too, that in parts of South America cocoa constitutes a staple

article of food amongst the Indian population.—*Chloralum Review.*

The Castor-Oil Plant.—This plant is a native of India, and has been known from the earliest antiquity, seeds of it having been found in Egyptian sarcophagi. It was used by the Greeks. In its native country, it is a perennial fifteen or twenty feet high, with a thick stem. In cold climates it becomes an annual. There are many instances of perennial plants becoming annuals by change of climate.

The rapid growth of the plant is illustrated by an instance reported in Tennessee. A castor bean was planted in May, 1871, in a garden in Memphis, and in November it had grown to the height of twenty three feet, with a spread of foliage fifteen feet in diameter. The trunk, ten inches above the ground, was eighteen inches in circumference.—*Ex.*

Therapeutics a Hundred Years Ago.—The following extract is from Prof. Silliman's "Century of Medicine and Chemistry," noticed in the last number of the Journal: "If any one yet desires to ask what the century of chemistry now closing has done for therapeutic medicine, let him take up any formulary of a century old, and look for almost any of the more familiar articles which form the staple of medical practice to-day. He will find set forth in the pharmacopœias of a century agone, with the greatest prominence, such simples and carminatives as balsam of tolu, syrup of marsh mallow, camphor, red coral, Castile soap, ginger, wormwood, James' powder, musk, mace, mummy, album græcum, powdered spiders, viper millipedes, stomachic tincture, and aqua pura. Of the more potent medicines then known but little use seems to have been made. Iron and its salts, opium, mercury, jalap, and rhubarb were comparatively rare medicines. Peruvian bark finds its place among astringents, in which category fall also calomel and rhubarb. Burnt sponge is used as an alterative, in all innocence of iodine, which was at yet unknown for more than a generation. Alcohol seems to have been used chiefly for tinctures, and there is

no class known as tonics. If we examine the prescriptions it is difficult to say whether a feeling of amusement or disgust at the utter empiricism evinced is uppermost. Viper broth and spermaceti for consumption; oak-bark and gall-nuts for diabetes; musk, decoction of intestines of fowl, and coral, burnt rhubarb, chalk, etc., for diarrhœa; tartar-emetic for hooping-cough; calomel and sulphur ointment for itch; are a few examples of the therapeutics of the leading physicians of London a century since. Not to do these worthy men the injustice to suppose that they dealt only in such extreme simples, it must be remembered that there was one form of iron which was an unfailing *vade mecum* and cure-all with them, and that was the lancet, with which they made their practice truly heroic.—*Exchange.*

Effect of Cold on Iron and Steel.—For many years it has been almost an axiom among civil engineers, that great cold tended to produce a brittle condition of iron and steel, and that this hypothesis explained the alleged increase in the breakage of trees, axles, and rails in railroad traffic. According to the recent experiments of Joule and others, however, it would seem that iron and steel, instead of being weakened by freezing weather, are actually capable of resisting greater shocks than at a summer temperature. Dr. Joule refers the greater frequency of railway accidents in winter to the increased hardness of the *ground* caused by freezing, by which the iron is subjected to a greater strain or shock than in summer.—*Ex.*

Phosphorus as a Nerve Tonic.—In the course of a paper upon the results of overwork, read before the London Medical Society, Dr. Routh said: The symptoms of mental decay resemble the gradual change that comes over old people, and yet are very similar also to those induced by venereal excesses in both sexes, except that in the latter there are symptoms of spermatorrhœa, which are absent in cases suffering from overwork. In both cases, the tendency is to the production of idiocy from softening of the brain and insanity. He said there was reason

to believe that the immediate cause of these symptoms was deficiency of phosphorus in the brain, and endeavored to prove this by considering *seriatim* the following points: 1st. It is proved chemically that a man grows older and mentally weaker, or becomes idiotic, as the brain contains less phosphorus; this was shown by the analysis of Hentier. 2d. The solidity of the brain in a measure dependent upon protagon, a phosphorized compound; and those foods which were richest in phosphorus were found by experience to renovate most speedily weakened brain-power, such as shell-fish and fish generally. 3d. The assertion made by some that phosphorus could only be assimilated by previous conversion into phosphoric acid, was combated, the effects of the two being shown to be perfectly different: phosphoric acid producing, in large doses, fatty degeneration of the heart, liver, and kidney, whereas phosphorus produced necrosis of the jaw-bone, and excited the nervous and sexual systems. The opinion of Dr. Von Bibra was also quoted in evidence of this. Phosphorus also reduced or removed congestion of the brain. 4th. Dr. Routh next showed that those diseases produced by softening of nervous matter, were precisely those which were cured oftentimes by the internal administration of phosphorus—namely, some forms of paralysis, eczema, and other skin affections, cerebral congestions, with great debility and insomnia. The authority of several writers was cited on these points—Delpech, Prof. Fisher, of Berlin, Dr. Eames, (in the "Dublin Journal,") Dr. Burgess, and Dr. Hammond, of New York. 5th. The special treatment indicated in these cases was next considered: 1st. Complete rest of mind, especially abstention from all occupations resembling that upon which the mind has been overworked; 2d. The encouragement of any new hobby or study not in itself painful, which the patient might select; 3d. Tranquility to the senses, which expressly give in these cases incorrect impressions, putting only those objects before them calculated to soothe the mind; 4th. A very nourishing diet, especially of shell-fish; 5th. The internal administration of phosphorus, whether in its allotropic form, or

as the "Solutio Phosphori Medicati," prepared according to Dr. Hammond's formula.—*The Doctor.*

A Cheap Barometer.—An English agricultural journal tells how to make a cheap substitute for the barometer: Obtain a Florence oil-flask of the regular shop pattern. Remove from it the protecting coat of rushes and wash it out with a ley of soda or pearlash. Next procure a bottle of any kind with neck wide enough to receive the flask inverted. Fill the bottle with water, and carefully invert the flask and insert it neck downward, so that it can float in the fashion of a balloon. The water will enter the flask an inch or two, and a balance will be established. To turn the contrivance to account it must be watched, and the amount of water in the flask will, as a rule, afford an indication of the weather to be expected. Thus, if the flask rises so that there is scarcely any water left in it, a storm may be expected; while on the other hand, if the water rises slowly, a long period of fine weather may be anticipated. This, practically speaking, is a perfect instrument; for the air within the flask is balanced against the whole body of the atmosphere, and therefore, though cheap and unpretentious, it must not be despised.—*Ex.*

All is not Gold that Glitters.—If the following is not true, any practical chemist will bear testimony that it is at least *bien trovato.* A verdant-looking Vermonter appeared at the office of a chemist with a large bundle in a yellow bandanna, and opening it, exclaimed: "There, doctor, look at that." "Well," said the doctor, "I see it." "What do you call that, doctor?" "I call it iron pyrites." "What, isn't that gold?" "No," said the doctor, and putting some over the fire, it evaporated up the chimney. "Well," said the poor fellow, with a woe-begone look, "there's a widder woman up in our town who has a whole hill of that, and I've been and married her!"—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

EPIDEMIC CEREBRO-SPINAL MENINGITIS, WITH AN APPENDIX. By MEREDITH CLYMER, M. D., etc. Philadelphia: Lindsay & Blakiston. 1872.

The object of this notice of the above-named work is to furnish the readers of the "Richmond and Louisville Medical Journal" a few extracts from it, and more especially to refer them to the work itself, as the very best treatise on the subject.

The largest part of this little volume of fifty-nine pages has previously appeared in the American edition of "Aitken's Practice of Medicine." The appendix is new, giving some account of the epidemic of 1872 as it appeared in New York.

The author regards the term epidemic cerebro-spinal meningitis as not a proper one for the affection, and quoting from Valliex, says: "It is begotten of anatomical bias, and an incomplete appreciation of facts."

The author defines the disease "an acute specific disorder, commonly happening as an epidemic, general or limited, and rarely sporadically, caused by some unknown external influence, of sudden onset, rapid course, and very fatal; its chief symptoms referable to the cerebro-spinal axis and great prostration of the vital powers, severe pain in the head and along the spinal column, delirium, tetanic, and occasionally clonic spasms, and cutaneous hyperæsthesia, with, in some cases, stupor, coma and motor paralysis; attended frequently with cutaneous hæmic spots; its morbid anatomical characters being congestion and inflammation of the membranes of the brain and spinal cord, particularly of the pia mater, although there is reason to believe that the evidence of these changes may be wanting even in cases of long duration."

It must be apparent, that if the definition given be nearly correct, the disease belongs to the zymotic class, a blood disease; and that the post-mortem appearances found in the mem-

branes of the brain and spinal cord, are consequent upon a general morbid condition of the blood and other parts of the system. Nor are the terms spotted, petechial or black fever given it by some writers correct, because these appearances, from which the names are derived, are found in other diseases.

The disease is not restricted to recent times. An affection similar was described in France in 1758. It occurred during the Napoleon war early in this century, and in recent times has been prevalent. It has a wide distribution over the earth, and occurs at all seasons, generally as an epidemic, by a series of isolated eruptions, rather than by general spreading.

Morbid Anatomy.—Under this head the author gives a full account of the morbid appearances, as described by a large number of observers. In the great majority of dissections, there have been found extensive organic changes in the brain, spinal cord, and meninges. The blood is abnormal, and changes have taken place in the spleen, liver, lungs, muscles, intestinal glands, pleura, and pericardium.

Symptoms.—Under this head we will scarcely attempt to condense, letting the reader have the benefit of the author's description. He says: "As a rule, the invasion is sudden, without warning indisposition, except, perhaps, general weariness, or aching of the whole body, or shivering, which latter is often the initial symptom, and may amount to a sharp chill."

Gilchrish states that in the Gibraltar epidemic, "weariness and a sense of general uneasiness were frequently felt for a day or two before the onset of the acute symptoms." Dr. Tourds says that "sudden invasion was the exception, not the rule, and that it happened at most in but one-quarter of his cases." Dr. Geo. O. Tucker, of Westfield, Mass., in reporting sixteen cases, says: "The mode of invasion varied considerably in different cases. In some there were the usual symptoms of febrile disturbance; in others, there were no formative periods or premonitory symptoms, the patient being suddenly insensible and convulsed with the rapid form of opisthotonos." * * "The onset of the disorder is almost constantly marked by severe

headache, usually occipital, sometimes frontal. Patients speak of it as acute, excruciating, and unbearable; and, in some instances, as if the brain were bound or stretched by a band or by a bar of metal. Dizziness may be complained of, excruciating pains in the nape of the neck, limbs, calves of the legs, and joints, particularly in the knee-joint, singly or collectively, and likened to those of rheumatism, are felt at an early stage, along with stiffness of the jaws and neck. A sudden and acute pain in a joint, or finger, or toe, compared to the stinging of a bee, has sometimes marked the access. Stinging pains in the arms and legs, later in the attack, have been noticed as sometimes occurring in the late epidemic in this country. Sore throat in some epidemics has been a common initial symptom. Dr. Upham speaks of cases which began like a severe cold, and in such he found a tendency to palsy of the muscles of the tongue and face; and the same has been noticed by some German writers. There are soreness and tenderness at the back of the neck and along the spine. Nausea and vomiting may happen at the onset; generally, there is a great weakness from the beginning; the pulse is quick and feeble, or it may be but little changed; the breathing may be natural, or slow and oppressed, or sighing; the surface cool and moist, the face suffused, and eyes bloodshot. Delirium may set in soon; instances in which raving delirium has begun within half an hour of the onset having been recorded, or it may happen later; it is generally not violent, but wandering, or talkative, or muttering, with perversion and dullness of intelligence, and great apathy, though the patient may be readily roused to consciousness; at other times, there may be initial stupor, or even coma. The intelligence may be unimpaired throughout the attack. From a few hours, to one or more days, the eruption is seen upon the neck, abdomen, back, arms, legs, and sometimes on the face; it is hæmic and distinct, made up of dark-red or purple spots of the size of a pin's head to that of a dime, not raised nor fading on pressure." * * "Sometimes there are only dark-mottled spots scattered here and there over the skin. The eruption is

not constant. In some cases the hæmic spots have not appeared until after death." * * "Rubeoloid patches have been occasionally observed." The eruption in some epidemics has been described as herpetic, the vesicles flattened, and resting on a livid base. "The tongue is moist and creamy." Cutaneous hyperæsthesia is a pretty constant symptom. Rigidity of the muscles of the back of the neck "is one of the most constant and persistent symptoms." This rigidity may extend to other muscles as those of the jaws, limbs, etc., but cases have been reported where no muscular rigidity was observed. "The bowels, as a rule, are constipated." As the disease progresses, the tongue may become dry or black, and swollen, with sordes. The pulse is generally feeble, and varying in frequency from 56 to 150 per minute. The temperature is not high, but it has been found to range from 100° to 105°. "The skin may be moist or dry, with profuse irregular perspirations; sometimes of the face and head only, and their sickly smell is noted." "The facial expression is peculiar," and indicates suffering. In the advanced stage, the face appears sunken, like that of a cholera patient. Disturbances of the sight and hearing are not constant. The state of the pupils is variously reported; sometimes as dilated, sometimes as contracted. Blindness may happen as an early or initial symptom; various organic changes may take place in the eyes, even to destruction of the globe. Decumbency is the most general position of the patient.

"When the issue is happy there is a gradual abatement of the symptoms, with reäction." Death occurs from coma, paralysis of the heart, or lungs, or by asthenia. The symptoms of the disease vary, even in the same epidemics. Rarely in any case are all the symptoms enumerated to be met with, some cases dying quickly like the fulminating cases of scarlet fever, and other maladies. "There are properly no stages to this disorder; all the essential symptoms noticed in its course may be present at the outset with initial severity, or they may follow each other in close sequence. Abatement in the intensity

of some symptoms is occasionally seen, and others disappear and return, or pass away entirely, but marked remissions, except, perhaps, where there are malarial complications, are not common. The duration of an attack is from a few hours to many weeks."

Mortality.—The rate of mortality varies in different places and in different epidemics; in some all die, in others but twenty per cent.; the average would probably be seventy per cent.

Prognosis.—The unfavorable symptoms are manifested chiefly in the nervous phenomena, but great discoloration of the skin, constant albuminuria, and extreme temperature are equally fatal. There is some risk of relapses, which are very fatal. The favorable indications are abatement of the nervous symptoms, and "general reäction as shown by the pulse, heart and skin."

Diagnosis.—The sudden onset of the disease, with the opisthotonos, and petechial eruption, with the languid circulation, and the presence of an epidemic, are sufficient to distinguish the malady from the different fevers and other acute diseases, but the diagnosis is not easily made in many cases.

Etiology.—Under this head the author, after showing that neither age, sex, season of the year, cold, heat, mode of life, nor habitation, are essential elements in the production of the malady, states: "There is reason, therefore, to believe that the effective cause of cerebro-spinal meningitis is to be sought for beyond physical and bodily conditions; that it is outside of the degree of heat, moisture, etc., and the constitutional state of the individual, and we are forced to take refuge in the assumption of an unknown special morbific agent as the ætic factor." The same probably may be said of the cause of all epidemic disease, and humidity, filth, crowding, with decomposing animal and vegetable substances—malaria—simply impairs vital resistance, and furnishes the matrix in which the *essential* cause of epidemic disease multiplies and perpetuates itself.

Nature.—Under this head the author shows, that in cerebro-spinal meningitis while a frequent but not invariable lesion of

the membranes of the brain and spinal cord appears, it is not a true phlegmasia. The morbid processes are different from inflammation, it is "entitled to be described and regarded as a distinct disease, whose proper nosological place is amongst general disease, born of an external morbid poison," and different from that of typhus or any other known disease.

Treatment.—According to the author, we can look for no antidote to the poison which causes the disease, nor can we expel or eliminate the unknown morbid agent. The disease, like typhus or typhoid fever, has its own nature and course, and no agent or plan of treatment can control it. The most the practitioner can accomplish, is to guide the disease through its course by combating symptoms as they arise.

"A hot bath, 102° to 106° degrees, in which the patient is to remain a short time only, and to be immediately wrapped in blankets, often gives some relief. When the surface generally or the extremities are cold, friction with turpentine and chloroform may be used, or sinapisms put on the arms and legs. A moderate quantity of blood may be drawn by cups or leeches applied to the back of the neck, followed by counter-irritation or a blister. Brandy or ether or chloroform, in small quantities, may be administered both as a stimulant when indicated, and to allay nausea and check vomiting. Two or three large doses of quinine, with opium, should be given at proper intervals; or hypodermic injections of morphia about the seat of pain. The bowels ought to be kept free by purgative enemata containing croton oil, turpentine, etc. Nutritive and suitable food must be taken when possible, at short intervals, and through the night as well as the day. Proper nourishment throughout the case, rather than stimulants, is required. During convalescence good diet and tonics are required."

The above quotation from the author contains, perhaps, all that ought to be said concerning the treatment. Several special modes of treatment are detailed, with varying success, but I will inflict on the reader an enumeration only of some of the remedies which have been used—these are general bleeding,

veratrum, aconite, digitalis, opium in large doses, hypodermic injections of morphia, the free use of quinine, iodide and bromide of potassium, inhalations of ether and chloroform, the tincture of cantharides, the sulphites and bisulphites, permanganate of potassa, counter-irritation, blisters, and the actual cautery, moist and dry heat to the extremities, cold applications to the spine, ice and freezing mixtures, etc. The judicious practitioner will no doubt find some of these remedies beneficial, not one a specific, nor to be administered in all cases.

The Appendix is important, as it gives the careful observations as to the cause of the disease as it appeared in New York in 1872, with a few remarks concerning the practice there pursued by some leading practitioners. The disease was traced to that old cause, filth—made ground, defective sewerage, foul gases, etc., and no doubt this is a factor in the causation of the disease. But besides, there must be a specific cause, which is heightened or multiplied by the presence of filth, else we would find the disease to prevail in all localities thus infected, which is not the case. In the treatment, opium was found beneficial by allaying pain and restlessness; bromide of potassium was used with variable success; blistering the neck and spine was advocated by nearly all the practitioners; ice bags were thought useful by some, and the wet pack by others, when the temperature was high. To those who wish to study cerebro-spinal meningitis, I again state this little book is especially recommended.

Transactions of the Kentucky State Medical Society. 1873. John P. Morton & Co., Louisville, Ky.

Preliminary Note.—Absence from the city, for nearly one-half of the time during the past summer, has prevented a notice of this volume and that of many others; and has, in many other respects, interfered with a prompt and energetic management of the Journal; causing delays, several regretted errors, etc. As this absence was necessary (caused by illess of a son) it is hoped that the friends and readers of the Journal will be

as generous as usual, and make due allowance for many facts and acts which have been almost unavoidable.

The Transactions of the Kentucky State Medical Society having (apart from the voluntary or authorized papers) been already published in this Journal, it would be useless to again call attention to them. In noticing the papers published in this volume, first comes the address of the retiring President. It is a pleasure to say, that this embodies the result of a large amount of careful and unusual reading; it abounds in facts of great interest, not only to the medical men of Kentucky, but also to the great mass of the Profession. Many of these facts are so interesting, and so worthy of general attention, that they will be separately presented in another issue of this Journal. This history of Kentucky, in its relations to medical men and medical science, is elaborate and important. Those who read the facts soon to be published will value and appreciate them. It is to be regretted that personal kindliness of feeling toward some has induced the author to associate with the names of many great men the names of those of known inferiority; it is also to be regretted, in the evident familiarity of the author with the salient and distinguishing characteristics of the many mentioned great men of Kentucky (including both her native and adopted sons), that these characteristics were not analytically presented or reviewed, so as to give the reader an opportunity of realizing as great those who have been so termed. The author's address, even with these critical objections, is, however, excellent, and places on convenient record many interesting and important facts which otherwise would have been forever buried in the great mausoleum of oblivion. The style of this address, like the material, is also to be commended with pleasure; for it so often occurs, that the best material is irreparably marred by the dress in which it is repulsively presented. There are occasional lapses in the general excellence of the author's style, and one reads with surprise so carelessly written a sentence as the following: speaking of the general neatness of Dr. Harrison, in all of the details of dress, furni-

ture, equipage, horses, etc., he adds, "everything about him looked the gentleman." As a whole, the President's address is to be much commended, and this commendation is given with increased pleasure from the fact, that certain faults unworthy of the author were, soon after the delivery of the address, most unwelcomely but justly censured in this Journal. This address is by Dr. Lewis Rogers, of Louisville, Ky.

The article on "Medical Education," by Dr. E. Richardson, is scholarly and strong; it is terse in style with many examples of strong deductions, beautified by classical illustrations.

The useful and instructive paper by Dr. Speed (History in Disease), is noticed in the May Journal.

Dr. E. B. McClellan, U. S. A., contributes a most unique and valuable paper on the Obstetric proceedings among certain of the Aboriginees of North America. This paper, so far unnoticed, will be brought at some future time more particularly to the attention of the reader.

A valuable paper (by Dr. Joseph Thompson, of Paducah, Ky.,) on Surgery, deserves careful study. The excellent paper on Registration, by Dr. S. A. Foss, of Lacona; the instructive report on recent improvements in Ophthalmic Surgery, by Dr. D. S. Reynolds, of Louisville; the very useful and valuable paper on Laryngoscopy, by Dr. Richard Brandeis, of Louisville; the report on Vital Statistics, by Dr. Smith, of Louisville, and the interesting translation the Therapeutics of Electricity, by Dr. B. Tauber, of Paducah, are all most valuable contributions to the Transactions of the Society. At the close of the volume there is a very eloquent response, by Mr. B. G. Bidwell, to the toast "Law and Medicine." Here is an extract from this address, which abounds in beautiful ideas, beautifully expressed:

"For the efforts and progress you have made in your noble profession you deserve the gratitude and 'God bless you' of mankind. Your fame does not rest on the crushed hopes of your fellow men, nor on the ruins of once splendid empires, but was all achieved in the interests of humanity. The last note in Niagara's hymn of praise to Nature's God will one day be

sounded; the last bead in Time's rosary must be counted; old Ocean's restless moan shall be hushed into eternal silence; the Sun himself shall float a charred and blackened mass in the heavens; but 'beyond the storms that wreck, the sins that damn,' your deeds will be named among the splendors of the world eternal."

The last paper in the Transactions consists of two memoirs by Dr. Lunsford P. Yandell, of Louisville, Ky.; one a memoir of Dr. J. Taylor Bradford, and the other of Dr. Hugh Rodman. These memoirs are just, valuable and well written. They will be read by all with pleasure and profit. The work is beautifully printed, and is a great credit to the publishing committee and to the celebrated Publishing House selected by them.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

A New Method of Treating Ulcers. By Philip Cowen, M. R. C. S. I., L. S. A., Resident Medical Officer Islington Workhouse Infirmary, Upper Holloway.

Successful as many of the various plans of treatment of ulcer are, still too often they are very tedious in operation; very often the result is not at all commensurate with the care bestowed; and not unfrequently the ulcer will not heal at all.

Rest in bed, various lotions and ointments, support by strapping and bandages, cold poultices, side incisions, blisters, irritants or caustics, internal remedies, all occasionally succeed, (I speak of the worst forms of ulcer, many having existed for years); but too often the case becomes alike wearying to the surgeon and to the patient.

It occurred to me on reflection, that, from whatever cause arising, whether constitutional or local, an ulcer could be considered as a local asthenia of skin and parts beneath—a local

weakness and loss of plasticity; a brittleness where softness, elasticity, and pliancy yet strength should exist; a local tendency to degeneration and death. Whether the cause was from venous varicocity, or blood-pressure from other causes, as indolence, or disease of the liver or heart, or from general decay of the tissues from intemperance or other enfeebling vices, or from senile decay, or want of food, or general feeble constitution, or from scrofula or syphilis; from any of these causes, the ultimate result is, in an ulcer, the weakening and giving way of structures whose normal condition is to act as covering and protecting sheaths.

In several of these cases, the skin is specially weakened, in others, gives way through pressure; and in all cases the skin of the legs, from its depending, weight-bearing position, suffers the most. Knowing, as we do, that an ulcer has power of absorbing matters applied to its surface (any one can try the experiment with blackwash to a moderate sized ulcer for a few days, when mercurial salivation will begin), it occurred to me to avail myself of so excellent a property by applying locally matters having nutritive powers; so that the skin might be nourished locally at the weakened and degenerate spots, to enable the skin to take up such materials as would nourish its weakness and convert its brittle state into a plastic and healing one.

The natural secretion of an ulcer, the so-called laudable pus, may it not be a nourishing juice specially thrown out to feed the young growing granulations? If so, can we not add to this by artificial manuring?

Such is the theory; and I beg to record what has been the result of the practice. To carry it out, I made the following mixture of glutinous ingredients: Flour, four ounces; powder of acacia, one ounce; powder of tragacanth, half an ounce; one egg; chalk, two drachms; cold water, one pint. These were all mixed together, and placed on the fire in a saucepan. Just as it began to boil, or after boiling a minute, it was removed, and allowed to cool. If found too thick, it was made

thinner by adding a little boiling water, and stirring, so that it was of the thickness of ordinary paste; thin enough to be spread over the ulcer by means of a little brush, yet so thick that it will remain on the ulcer. Probably such a mixture is not necessary; either the flour-paste alone or the acacia might be sufficient, but I prefer it as it stands. The patient, provided with a pot and brush, thickly paints the ulcer all over three or four times daily, and covers the ulcer with a thin piece of soft rag. No other treatment nor washing is had recourse to, except to remove the rag. To keep the materials sweet, only sufficient is poured into the patient's pot for the day (pot and brush washed daily). The flour, acacia, tragacanth, and the egg supply the ulcer with all the necessary materials for its repair; the chalk has a further good effect, by supplying lime.

Now as to the results. During the six weeks I have tried the remedy, eighteen cases have been so treated—in fact, almost all the cases of ulcer we have had.

[For want of space, we omit the cases named; but we may add that in nearly all of them an entire cure resulted.]

There have been two cases of general ulceration from want of food, and several cases of syphilis which it was not thought advisable to treat with the paste.

There are certain unusual conditions which arise under this treatment which are worthy of notice:

1st. Islands of skin or cicatricial tissue arise in some cases in the centre of the ulcer, as well as from the circumference.

2d. There is for some days after applying the paste a large increase in the ulcer secretion; this afterward becomes normal.

3d. The remedy is a painless one.

4th. The cicatrix has a peculiarly healthy, strong appearance.

It is not the rest in bed, nor the pure air of this locality, nor the regular diet and cleanliness, alone; because, useful as all these are, we have not found unusual results with other systems of treatment. The cases we get in workhouse practice are, as a rule, so unfavorable in persons whose bodies are degenerate in every sense, that any plan of treatment which succeeds with

them must still more succeed in the healthier individuals in private practice. As to the propriety of healing up old ulcers in aged people, we take each case on its merits, often stopping short of completely closing them up.—*Ex.*

Valerian as a Remedy in Diabetes Insipidus.—Dr. Bradbury, of Cambridge, reports a case of diabetes insipidus in which the most marked benefit resulted from the employment of valerian in doses of fifteen grains thrice daily, a remedy that was first recommended by Trousseau. On admission (Sept. 1), the patient was passing sixteen and a half pints of urine daily, and his weight was 9 st. 5½ lb. He commenced to take the powdered valerian on the 5th of September, in 15-grain doses, three times a day. On the 11th of September the dose was increased to twenty grains; and on the 1st October these were repeated five times a day, beyond which time he could not take them without feeling sick. On the 3d December his weight had increased to 10 st. 10 lb.—*Ex.*

Hypodermic Injection of Ergotin in Hæmoptysis.—Dr. C. Currie Ritchie, of Manchester, Eng., quoted in the "Practitioner," has had remarkable success in the treatment of pulmonary hæmorrhage by this means. Reflecting on the action of ergot in contracting the muscular fibres, and thus lessening the calibre of the blood-vessels and diminishing the volume of blood, and taking in view its therapeutic action in aneurism, he inferred that it would be a powerful agent in producing hæmostasis and arresting hæmorrhage. In eight cases of hæmoptysis he used the injection with uniform success, the blood ceasing to flow after a few minutes. The solution employed consisted of three grains of ergotin dissolved in equal parts of glycerin and rectified spirits. Very little local irritation was produced by it, though the solution in distilled water proved highly irritating.—*Ex.*

Phosphorus in Neuralgia.—Phosphorus is a remedy little if at all employed by the regular practitioner in cases of neuralgia, though I believe frequently exhibited by the homœopathist.

A case, however, came under my notice some time since, which so strikingly illustrates its value, as to induce me to record it.

A gentleman, who had for years suffered acute and frequently recurring paroxysms of neuralgia of the chest-walls, applied to me for advice. I found that he had been a regular round of London and provincial doctors, and that every plan and remedy appeared to have been tried. I failing as signally as my predecessors, he sought aid of a homœopathist, and was relieved in a very short time. I lost no time in ascertaining the remedy which had worked so speedy and, as it proved in the sequel, so permanent a cure; and found that it consisted of the so-called mother tincture of phosphorus, of which he was ordered to take five drops on the advent of an attack, and repeat them as occasion required.

The tincture of phosphorus is a solution of phosphorus in ether, which dissolves about one per cent., so that each dose contained about one-twentieth of a grain of phosphorus—scarcely homœopathic according to the old-fashioned notions; *mais cela va sans dire.*

Not only was the pain relieved, but the frequency of the attacks was lessened; until, from suffering a seizure two or three times a week, as he had for some years, he has now been entirely free for more than four months.

Since the occurrence of this case, I have frequently employed this preparation of phosphorus, and have often found it of signal service in curing neuralgia; especially, it has appeared to me, in those subjects who add to a highly nervous temperament some cause of nervous waste; so that I have considered it probable that the neuralgia has, indeed, in these cases been, as Romberg styled it, "the cry of the hungry nerve for blood," or, rather, for its own special pabulum in the blood, and that the phosphorus has directly supplied this want. I have also employed pills of phosphorus melted in suet, and coated with gelatine, a preparation recommended by Squire when phosphorus is indicated; but I have not found them to possess any advantage over the phosphoric ether; while they possess the dis-

advantage of being difficult of preparation, and the universal pilular drawback of doubtfulness of destination, whether of absorption into the blood or of excretion by the bowels.—*Lancet.*

Sunlight for the Sick.—Dr. William H. Hammond, in discussing the sanitary influence of light, observes that the effect of deficient light upon the inmates of hospital wards and sick chambers have frequently come under his observation. Most physicians know how carefully the attendants upon the sick endeavor to exclude every ray of light from the apartment; and it must be admitted that the members of the Profession are often fully as assiduous in this respect. That the practice, except in some cases of actual disorder of the brain and other parts of the nervous system, is pernicious, he is well satisfied. During the early years of the late war, he visited the camp and the hospital of the regiment stationed in West Virginia. Reports had reached General Rosecrans' headquarters that the sickness and mortality were something frightful, and he was ordered to examine minutely into all the circumstances connected with the situation of the camp, the food of the men, etc. Among other things he found the sick crowded into a small room, from which the light was excluded by blinds of india-rubber cloth. They were as effectually bleached as is celery by the earth being heaped up around it. Pale, bloodless, ghost-like looking forms, they seemed to be scarcely mortal. Convalescence under such circumstances was almost impossible, and doubtless many had died who, had they been subjected to the operation of the simplest laws of nature, would have recovered.—*British Med. Jour.*

A Warning.—The following is clipped from the New York "Tribune": "Coroner Keenan was asked yesterday by Dr. C. P. Russell, Registrar of the Bureau of Vital Statistics, to hold an inquest on the body of Elizabeth T. Church, wife of Dr. E. P. Church, of 629 Ninth Avenue, who died January 5th from abscess of the right lung, caused by an injury inflicted with a

wire by the deceased during at attempt to procure an abortion upon herself. Dr. Russell stated that an autopsy by Professor T. G. Thomas, of the Twenty-third-street Medical College, had 'revealed the presence of a wire about twenty inches long,' which had passed upward through the peritoneal cavity and penetrated the lung."

Equable Climates.—As places of resort for consumptives, California and Minnesota present the strongest claims on the score of equable climates. At San Diego, according to the "Daily Union" of that place, the thermometer has ranged from 60° to 70° at noonday, through the month of January. Even as far north as San Francisco it has not been below 55° at noon, while the average has been 60°; nor has it fallen lower than 45° at night. In Minnesota, also, the temperature has been remarkably uniform, that is to say, about 20° below zero. A citizen would have no occasion to put on his overcoat in the former region, nor to take it off in the latter.—*Pacific Medical Journal.*

MEDICAL NEWS.

'Nulla dies sine linea."

It is said that in the late epidemic of cholera at Lancaster, Ky., one-half of the physicians and all of the clergy fled, one brave negro excepted. Can this be true? If so, the names of these recreants should be given to the public.———Prof. D. Warren Brickell, formerly of the New Orleans Medical College, has been appointed one of the Professors of Obstetrics and Diseases of Women and Children, and Clinical Midwifery, in the Bellevue Hospital Medical College in this city.———*A New Medical College.*—We are to have another medical college in Philadelphia—the Medical Department of Lincoln University. This institution, located at Oxford, Chester county, in Pennsyl-

vania, was established some years ago, and is rapidly growing in importance. It is intended especially to meet the educational wants of the negro, Mongolian, and Indian races. The Medical Department is now fully organized, and its early removal to Philadelphia is contemplated, where the student will have the advantage of clinical instruction in one or two of our prominent hospitals. An effort is now being made to raise funds for establishing a dispensary and hospital in connection with the department, and the indications are that the effort will be attended with success. There is no hospital in Philadelphia for the exclusive use of colored people, and the prominent and wealthy citizens among them will, no doubt, make generous contributions to and use their influence in behalf of the object. The students in the Medical Department of Lincoln University have all taken a collegiate degree, and in point of intelligence will compare most favorably with those of our best medical colleges. The Medical Faculty consists of the following gentlemen, all of them residing in Philadelphia, and all known as respectable, and some of them prominent members of the profession: S. B. Howell, Professor of Chemistry; E. C. Hine, Professor of Surgery; Theo. H. Seyfert, Professor of Physiology; Harrison Allen, Professor of Anatomy; Henry Hartshorne, Professor of the Theory and Practice of Medicine; William F. Jenks, Professor of Obstetrics; F. H. Hassler, Professor of Materia Medica. Leonardo S. Clark has been appointed Demonstrator of Anatomy.—*Med. and Surg. Reporter.*———*The Peninsula Journal*—The first number of the new issue of this journal, published in Detroit, Mich., promises well, and presents a very attractive appearance. The name of Henry F. Lyster, M. D., appears as editor, followed by the names of eight associate editors. With proper encouragement on the part of the profession in the West, we have no doubt the "Peninsular Journal of Medicine" will prove a success. The "Michigan Medical Journal" ended its career with the number for April, 1873.———Dr. H. C. Wood, Jr., of Philadelphia, is no longer connected with the "Quarterly Journal of New Rem-

dies." The Trustees of Jefferson Medical College having requested Prof. Joseph Pancoast to withdraw his resignation of the chair of Anatomy in that institution, he has complied with the request, and will discharge the duties of the chair during the ensuing session. Medical Director Joseph Beale, of Pennsylvania, will be Chief of the Medical Bureau of the Navy by the retirement of Dr. Palmer. The professorship of Eye and Ear Diseases in the University of Maryland, and the lectureship on Operative Surgery, formerly united, have been divided. Professor Julian J. Chisolm retains the chair of Eye and Ear Diseases, and Professor Allen P. Smith has been called to that of Operative Surgery. Dr. Carl Rudolph Braun, Professor of Obstetrics and Gynæcology at the University of Vienna, has been raised to Knighthood, with the title of "Fernwald."—*New York Medical Journal.* ——— Dr. Edward M. Snow, of Providence, Rhode Island, has received a diamond ring from the Czar, in consideration of his services as a delegate to the Statistical Congress in St. Petersburg.—*Ex.* ———*On the Development of Great Cholera Epidemics.*—Dr. Tholozan, Physician to the Shah of Persia, read a paper before the Academy of Medicine, on cholera, in which he stated that India is not the sole focus of cholera, but there are other centres of irradiation, among others, Afghanistan and Turkestan. —*Ex.*———The student who was asked the use of starch in germination, and who replied that, "In the German nation, as elsewhere, starch is used for doing up linen and similar laundry purposes," intends to take an extra course in botany during the summer vacation.—*Boston Jour. of Chemistry.* This answer is not quite so amusing as the question asked a student in a competitive examination for hospital position in Louisville: "What accidents may occur during gestation"?———*British Medical Association.*—The forty-first annual meeting of the British Medical Association was held in London, August 5, 6, 7, and 8, under the presidency of Sir William Ferguson. The meeting was the largest ever held, about three thousand members, including a number of distinguished foreigners, being present.

The following addresses, in addition to the President's address and the addresses of the Presidents of the sections, were delivered. Address in Medicine by Dr. Edmund Parkes; in Surgery by Mr. John Wood; and in Physiology by Dr. Burdon-Sanderson. The next annual meeting will be held in Norwich, with Dr. Copeman as President elect.—*Ex.*———Mme. Chateau, *sage femme* of Vierson, has been awarded a prize by the Minister d'Agriculture for her devotion during the small-pox epidemic of 1870. Her vaccinations amounted to 400, and her re-vaccinations to 2,700.—*Ex.*———*Transfusion of Blood in Leukæmia.*—In our number of May 24th, we mentioned that Mr. Callender had performed transfusion of blood on a patient suffering from leucocythæmia, and that he proposed to repeat it if successful. It has been repeated once since; several ounces of blood, taken from a stout-looking countryman, were injected. As in the first trial, the immediate results of the operation were encouraging, but it does not seem to have done much permanent good. The notes of this case will be looked for with interest in the "St. Bartholomew's Hospital Reports.—*Brit. Med. Jour.*———The French Academy of Science has recently shown its estimate of Darwin's claims as a man of science by rejecting a proposition to elect him a member, by a vote of 26 to 6.—*Ex.* This is mortifying, indeed, to literary and pseudo-scientific coxcombs.———It is stated that the costs of the recent lawsuit to establish the claims of women to medical education at Edinburgh University, amount to $4,241, and that those costs have been thrown on the lady students.—*Ex.*———The "British Medical Journal" states that two cases of Asiatic cholera were reported in London during the first week in August, one of which proved fatal. They were imported from Hamberg.———The Shah, while in London, was shown through St. Thomas' Hospital. He spoke to and patted several children; asked a few questions; paused for a minute in the central corridor; then walked on again; and was presented with the Cheselden medal, etc., etc.—*Ex.*———The Michigan University, at Ann Arbor, has matricu-

lated eighty-eight girls for the coming college year, beginning in September. Forty-two have entered for the literary course, and thirty-seven for the medical.—*Ex.*———The American Dental Association, which was for several days in session at Put-in-Bay, Wisconsin, adjourned on Saturday, August 9th. The meeting was the largest yet held by the Association.—*Ex.* ———Dr. Bazin, the well known Professor of Dermatology at the Hospital of St. Louis, was recently made an Officer of the Legion of Honor on retiring from his hospital office.—*Ex.* ———*Illness of Nelaton.*—We regret to hear from our correspondent in Paris, that Dr. Nélaton, the celebrated surgeon, is lying so dangerously ill that little or no hope can be entertained of his recovery. He has been for some time suffering from cardiac affection.—*Med. Times and Gazette.*

Rip Van Winkle.—The following is published as news in a recent number of the "Philadelphia Medical and Surgical Reporter": "Dr. J. Drummond Burch is Professor of Anatomy, and Dr. W. Y. Gadberry of Principles and Practice of Surgery and Clinical Surgery, in the Louisville Medical College. Both are of Yazoo City, Mississippi." If the above had been published about two years ago it would have been fair news, but issued now it is simply nonsense. These gentlemen have not lived in Louisville for two years; nor has either of them been seen in the College named for two winters. The editor of the "Reporter" has just waked up from a regular Rip Van Winkle nap.

The following is sent by a friend in Paris as the latest piece of news there: "Le colonel Belleville, membre de la Société d'histoire naturelle de Toulouse, nous envoie une brochure intitulée:

La rage au point de vue physiologique.

En voici la conclusion:

"La continence prolongée est la cause déterminante de la rage."

Oh! colonel!

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Cholera.—Since the July issue of the Journal, cholera has made its appearance in many sections of the United States. Fortunately, each local outbreak, while attended with the usual fatality, has soon terminated. In many of the States the disease has suddenly appeared, only to disappear as suddenly. While the malarial regions have singularly escaped, in a great measure, its visitations, the most beautiful and otherwise healthy sections of the several States have been seriously ravaged. Sections of country in which malarial fevers are almost unknown have been the scene of its deadly visitations, while large areas yearly scourged by malarial diseases, have almost wholly escaped. It has prevailed in mountain regions with granite surroundings and pure mountain air, while alluvial soils, the chief habitals of malaria, have almost wholly escaped. Among those who have suffered and been destroyed, the negroes are chiefly prominent. Nearly three-fourths of the cases and most of the deaths have been among negroes; a race almost entirely insusceptible to the influences of malaria, and seldom or never destroyed by it. Yet, with these facts so prominent; with the fact that cholera first appeared in America (at Quebec) in 1832, centuries after the settlement of the country, and then made its appearance in a clean and healthy, granite-bound city (with the least malarial atmosphere) immediately after the arrival of a cholera ship (the brig Carricks) having cholera dead on board; with the fact that in the Carolina river bottoms malaria is so concentrated that it is death to the white man to encounter it, and physical degradation to the negroes who are surrounded by it, yet cholera never appears; with all of these facts, clear and indisputable, there are crack-brained enthusiasts who noisily and ceaselessly assert that cholera is due only to malaria. It is a waste of time to do more than allude to this, when it is known

that almost every sanitary authority, either in medical or collateral science, regards such an etiology as but a subject for foolish vaporings; diametrically opposed to the logic of fact, and to the scientific testimony of the great men in medicine.

In the outbreaks of cholera during the past summer, nothing new has been developed. The recognized etiology has been almost conclusively demonstrated to be unquestionable. The treatment has given the old and usual rate of mortality; fifty per cent. Atropia has worked conspicuously well, when associated (by hypodermic injection) with quinine. Hygienic laws faithfully observed have diminished the virulence and duration of the outbreaks; as they will always do in almost all epidemics. Panics have been, as of old, frequent and disgraceful. Physicians and the clergy have even proved recreant and cowardly; deserting their posts; fleeing from danger and duty; surrendering manliness and the last vestige of honor. Apart from all this, there is nothing yet to be recorded. All must watch and wait. Let every physician stand true to his duty; and if like the grand old sentinel at Pompeii, he can not stay the pestilence, let him die at his post, at least let him not disgrace himself and his Profession by fleeing from it.

EDITORIAL BREVITIES.

At the Alabama Insane Hospital, under the able management of Dr. Bryce, there is a very neat and interesting newspaper published. It is "edited by a patient," and the whole work is the result of the labors of the inmates. It is not only a curiosity, but is well worthy of careful reading. Here and there one sees, as in the case of poor Ophelia, the evidences of "sweet bells jangled and out of tune," but it seems that, at last, an affirmative answer can be given to the sad question Macbeth addressed to his physician, "Canst thou not minister to a mind diseased?" for in this paper there is much of that medicine which the "Thane of Cawdor" wished to be used "to cleanse the stuffed bosom of that perilous stuff which weighs upon the heart." May such a paper prosper; and all honor to

those who may aid and develop it.———The editor of the "Cincinnati Clinic" thinks that the cholera editorial in the July issue of this Journal was "stupid." It gave facts as to the great prevalence and malignity of cholera in that city; these facts being obtained from Dr. J. C. Peters, of New York, who was sent out to investigate the cholera epidemic. Whether it was "stupid" for this Journal to publish such facts, or more stupid for the "Clinic" to suppress them, the public will determine.———The life of Dr. Ephraim McDowell will be published in this Journal as soon as Dr. Jackson is well enough to complete it.———The review of Dr. Clymer's work, in this number, was contributed by Dr. B. M. Wible, of Louisville, Ky.———A recent number of the "Philadelphia Medical and Surgical Reporter" has, perhaps, the silliest attack ever made against the giving of beneficiary scholarships to worthy young men, who, sufficiently educated to study medicine, are pecuniarily unable to do so. It admits that the principle is right and impregnable, but the public advertising of a willingness to carry this into effect is all improper. To render aid (according to that writer's logic) is right enough; but to have your willingness to render aid known to those who need it, is all wrong!!! This reasoning is, as is said in Cymbeline, "much like the argument that fell out"; and the windy author of it reminds one of that silly and unfortunate peacock, which spreading its tail where there was too much wind, became wrecked solely by its own caudal superfluity. The bird found that, with much wind, it was better to have more head and less tail; a lesson that can be studied to great advantage by the author of the "Reporter's" celebrated editorial on "Beneficiary Scholarships."———The future numbers of the Journal will be promptly issued.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. OCTOBER, 1873. No. 4.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—WHAT ARE THE PHYSIOLOGICAL RELATIONS OF THE RED AND WHITE BLOOD CORPUSCLES, AND WHAT PART DO THEY PLAY IN CELL FORMATION? [Read before the Maryland Academy of Sciences by JOHN S. LYNCH, M. D., Professor of Principles and Practice of Medicine in College of Physicians and Surgeons, Baltimore, Md.]

Among the many physiological questions yet unsolved, there are none perhaps more interesting than the one at the head of this article; nor is there any whose correct solution will throw more light not only upon the laws of natural development, but on many of the abnormal or pathological processes. Modern physiologists are divided upon the subject, and many of them hold opinions diametrically opposed to each other. While some, Dalton among them, maintain that the white and red corpuscles are distinct anatomical elements, having no dependence whatever upon each other, many others, embracing such names as Beale and Carpenter, of England; Kœlliker, Gerlach and a host of others in Germany, and I believe nearly all the French authorities, maintain that the white corpuscle stands to the red

in the relation of an embryo to a developed organism, and that every red has previously existed as a primary white globule. Both of these theories are founded upon purely speculative reasoning, and neither of them is as yet sustained by a single incontestible fact. For while it is impossible to prove on the one side that they are distinct anatomical elements, and never change the one into the other, it is equally difficult to prove that the white corpuscles are converted into red ones, since no eye has ever detected them in the process of transformation. Gerlach and Kœlliker have asserted that they have seen in the blood of some of the reptilia, corpuscles which they supposed to be intermediate between the red and white; but no other observers I believe have been able to confirm their observations, notwithstanding the most diligent search. Dalton indeed maintains not only that they are distinct anatomical forms and not interchangeable, but that they are permanent or indestructible. His argument, however, upon this point, seems to be unfortunate. He says (edition 1867, p. 206) "it is not the *anatomical forms*, anywhere, which undergo destruction and renovation in the nutritive process; *but only the proximate principles of which they are composed.*" Surely the great mass of epithelial cells which cover all the surfaces, and which are perpetually undergoing destruction and renovation, are "distinct anatomical forms, as truly as the blood corpuscles; and the rapid loss of substance that occurs in all the tissues when nutrition is arrested, certainly justifies the presumption, if it has not been proved by observation, that the anatomical forms (cells) that compose them are constantly undergoing destruction. In view then of the opposite nature of the views held upon this subject, and the insufficient foundation of fact and argument upon which they rest, and more especially in view of the curious fact discovered a few years ago by Cohnheim—the emigration of the white corpuscles—the writer has been led to form a third theory differing from and quite opposite to both of these, which he proposes briefly to state and explain in the present article. Before doing so, however, he deems it proper to pre-

face it by a few observations explanatory of the forces which sustain the venous circulation, which are necessary to an easy comprehension of this theory.

A large number of thinkers have doubtless felt, if they have not expressed, dissatisfaction with the accepted explanation of the circulation of the blood through the veins, and more especially through the large venous trunks; and many ingenious and some fanciful theories have been formed to supplement it. This doubt of the sufficiency of the commonly received theory became a certainty with many, when Cohnheim announced his discovery. It was at once asked, Why should the larger white corpuscle, with its central condensation or nucleus, and granular surface, escape through the capillary wall, while the smaller, smoother, more fluid, flattened red blood disks always remain in the vessels, if the only forces concerned in propelling are the vis a tergo of the cardiac contractions and the vis a fronte of thoracic expansion? And in persons dead by apnœa, as hanging and drowning, in which we know that the circulation continues long after all inspiratory efforts have ceased, why do we still find the veins and right heart full and the arteries empty? It is said that this is brought about by contraction of the arteries; but this is untenable, not to say absurd, when we reflect that probably no artery contracts sufficiently to entirely empty itself, or in other words, to entirely obliterate its canal; and that the aorta especially, where this contraction must commence to be effective, *has no muscular fibres*, and therefore *does not contract at all* in the strict meaning of that word. Its middle coat being composed of elastic tissue, permits of dilation, and when the distending force is removed, it regains its original calibre; but it can no more completely close its canal, than can a steel gun-barrel obliterate its bore. The third mechanical force usually assigned as a factor in the circulation—viz., muscular contraction, is scarcely worthy of consideration. In ordinary repose, in sleep and coma, this factor is entirely absent, and yet there results no very notable retardation of the circulation. Indeed, it is very questionable whether muscular contraction

does not *retard* more than it excites the motion of the blood; for while the contraction of any given set of muscles may force the blood out of those muscles, and to that extent accelerate the current through the proximal, it must necessarily at the same time and to the same extent obstruct the flow from the distal extremity of the veins, and the two results therefore at least neutralize each other. Besides, the degree of vascular excitement produced by muscular contractions (exercise) depends very greatly upon the degree of contractility of the muscular fibres themselves. A muscular effort which would not increase by a single beat the pulse of a trained athlete whose muscular contractility has been excited to the highest degree by constant exercise, would produce a tumultuous excitement of the circulation in one whose muscles have lost their contractility by desuetude. It would therefore seem that the amount of vascular excitement produced does not depend so much upon the amount of muscular contraction as *the amount of nerve force expended in producing it.* For it is perfectly evident in the case of the two men mentioned, that while in raising a given weight a definite height in the same time, the amount of muscular contraction is precisely equal in each, an immensely greater amount of nerve force must be applied to the small, weak muscles of the one, than to the large and strong muscles of the other. Again, influences purely psychical excite the circulation far more than muscular contraction. For it is well known that surprise, terror, rage, joy, grief, etc., all produce rapid motion of the blood, and with a suddenness which is never witnessed as the result of muscular contraction.

I think therefore that we are justified in asserting, that there must exist some other influence which propels the blood through the veins and enables it to overcome the force of gravity besides purely mechanical forces, since these must act with equal power on white and red corpuscles alike.* What is that in-

* Of course an increase of the force of cardiac and arterial contraction is, as regards them, a purely nerve force or phenomenon; but in its transmission through them to the blood, it becomes purely a mechanical force.

fluence? Is it vital, chemical, electro-magnetic, or nervous?

The first or vital force it is useless to discuss, since we do and *can* know nothing about it; and for that reason modern savans scout it entirely out of the domain of science.

The second was very ably discussed several years ago by (I think) Professor Richardson, of New Orleans, in the "New Orleans Medical Journal"; but I have unfortunately lost the number containing his article. The theory advanced was, that the blood corpuscles in their passage through the tissues, were attracted from point to point along their course by the chemical affinity of those tissues for the oxygen contained in them; and as soon as one atom was supplied with oxygen, the corpuscle would be attracted by the next, and so on. The idea was certainly plausible, and was supported with great force and ingenuity. But while not denying the influence of such an accelerating force upon the blood while passing through the capillaries and smallest veins, I suggest that it would fail where it would seem to be most needed; that is in the large venous trunks, especially the inferior cava, which is not even supplied with valves; and where the blood would be almost if not quite deoxygenated. This theory would, however, rationally account for the slower movement, and even frequent momentary arrest of the white corpuscles, which, holding no oxygen to be given up, would not be attracted chemically or chemico-vitally by the tissues.

The third of the hypothetical forces spoken of—electro-magnetism—has also strong claim to our consideration.

Becquerel, who has for several years been devoting himself to the investigation of animal electricity, has demonstrated that there exists in all animals numerous pairs of elements capable of generating electric currents of considerable intensity. Thus, the external and internal surfaces of the skin, veins and other membranes, of muscles, arterial and venous blood, the different tissues, etc., all generate currents of various intensity. Now there exists we know a strong mutual attraction between electricity and iron; and iron is the base of the coloring matter or hæmatin of the red corpuscles. Here then we have a force

always present and diffused everywhere throughout the system; in the venous trunks, as well as in the smallest radicles and capillaries; which may and probably does exert in its aggregate an enormous influence in keeping up a progression of the red corpuscles towards the heart. But this force acting only upon or through the hæmatin of the red, would exert no influence whatever upon the white corpuscles which are deprived of it. The last or nerve force may be also an important factor in this problem. Indeed, we know that it is either directly or indirectly, since we are well assured that (as already pointed out) the circulation is powerfully affected by purely psychical influences, which *can* act only through the nervous system. But it is possible, if not highly probable, that it may exert a *direct* influence upon the red blood corpuscles, attracting them from point to point along the veins, as I have shown that they may be attracted by the chemico-vital affinity between the tissues and oxygen in the capillaries. And curiously enough this force would supplement the others, just where it would seem to be most needed—viz., in the large venous trunks, which are alone supplied with nervous filaments, while in the smaller veins they are absent. What may be the true nature of nerve force or nervous fluid we are of course ignorant of; but we do know that it very nearly resembles electricity in many of its characteristics; is governed in many particulars of its action by the same laws; may be substituted by it for the discharge of its most important function, that of exciting muscular contraction; and for a long time was considered identical with it by some of the ablest thinkers and investigators. If, as seems to be highly probable from various experiments, nerve fluid possesses the same attraction for certain of the metals that electricity does, its influence, like the other two I have spoken of, would be principally if not only felt by the red blood corpuscles through the iron of the hæmatin. Precisely *how* nerve force or electric fluid operates to drive the corpuscles in one direction only we can not understand in the present state of our knowledge. If they *do*, the precise mechanism of the machinery

will not long evade the keen observation and ingenious experiment of the many able minds who are "interrogating nature" in this age, when their attention is turned in this direction; which is the object of this paper.

There are then three intrinsic forces existing in the animal economy which are capable of supplementing the physical or mechanical ones in producing the venous circulation; but as I think has been shown, they are only applied to the red corpuscles; leaving the white globules to be passively wafted along by the current in which they float. Are these forces or any one of them really in operation? When we examine the capillary circulation of a living animal, we find that while the red corpuscles form a dense column in the central part of the capillary or vein, and move rapidly, the white globules occupy a position nearer the walls of the vessel and move more slowly; are frequently arrested entirely for a moment, apparently sticking to the capillary wall; and whenever any obstruction occurs short of entire occlusion of the vessel, *they alone are arrested*, and accumulate in disproportionate numbers, while the *red corpuscles continue to move on.** The inference is unavoidable therefore that the latter move in obedience to a force which does not govern the white globules, and that that force is *not mechanical*, because such a force *must* act on both alike. And since we know that the three forces mentioned, that is, chemical affinity, electricity and nervous force or fluid are always present and capable of producing the stated results, we are justified in assuming that one or all of them are potential factors in the venous circulation; more especially when we consider that this assumption furnishes us with a rational explanation of a physiological fact otherwise inexplicable, to-wit, the emigration of the white corpuscles.

With these premises, I now proceed to state my theory:

The red blood corpuscles are converted into white globules, by slow imbibition of albumen, etc., etc., from the

* Dalton, edition 1867, pp. 281–2.

blood plasma, until the cell walls are completely distended, when they assume the spheroidal shape, and at the same time are deprived of their coloring matter. Being then neither oxygenated nor ferrated bodies, they are not acted upon by either chemical affinity, electrical or nervous attraction; but are merely inert atoms wafted along by the blood current, and are forced through the capillary walls by the pressure and crowding of the more active red blood disks. The white globules thus extruded or extravasated are embryo cells, which, in the normal healthy condition, continue to be nourished by the liquor sanguinis continually exuding through the capillary walls, and become integral parts of the organs or tissues, contributing to their growth, and to reparation of the elements lost in the natural process of wear and waste going on in every animal; while abnormally or in a state of disease they furnish the pus colostrum* and other corpuscles, or contribute to the formation of neoplastic and pathological growths.

The facts and arguments in favor of these propositions may be stated in a few words.

First. The red corpuscle contains no nucleus; its contents are quite fluid, and is wholly dissolved in acetic acid, and even water, while the white globule *does* contain a nucleus or central condensation which is not dissolved by water or acetic acid and other weak acids, but on the contrary is made more distinct by their action upon it, resembling to this extent the cells found in the tissues.

Second. The red corpuscles vary in size in the same individual (human) between 1-2700 and 1-4000 of an inch; while the white globules are always of uniform size, or vary, if at all, between exceedingly narrow limits; thus permitting the inference that while the one is still in process of development or growth,

* The writer has demonstrated to his own satisfaction that the so-called colostrum corpuscle is merely an enlarged or distended leucocyte, identical in origin with the pus corpuscle. The proofs of this will be given in a future article.

the other has attained the fullest and highest development of which it is capable in its present condition.

Third. The white corpuscle is larger than the red. Is it not therefore illogical to infer that the larger body is normally converted into the less, since no where else in nature do we find such a paradox; while the reverse is true throughout her domain.

Fourth. The white globule escapes through the capillary walls without rupturing them, and takes a place temporarily or permanently among the tissues, while the red corpuscle never does this unless rupture of capillaries occurs, although from their smaller size, greater smoothness, softness and flexibility, their escape should be attended with less difficulty than that of the white; and when they do escape they are either speedily absorbed or give rise to inflammation and suppuration, but never undergo organization.

The emigration of the white globule is therefore a normal physiological process continually going on, and established by nature for a definite useful purpose. What is that purpose? It is hardly credible that if the white are merely embryonic red corpuscles, designed only to build up the blood, nature with spendthrift hand would thus waste them by scattering them broadcast through the tissues, merely to be taken up and removed by the lymphatics. Is it not more probable that these white globules are really what they seem to be, embryo nucleated cells, prepared in the great nursery of the body, the blood, to take their appointed place among the tissues; and that this is the process and these the agents or elements by which the organs are built up and their waste repaired? Admitting this hypothesis to be true, we can readily explain the various forms the cells assume in different situations upon purely mechanical principles; and the phenomena of acute and chronic inflammation and irritations, of suppuration, neoplasia, hyperplasia, etc., etc., become perfectly comprehensible.

Thus assuming that the cells are formed of the white globules and consequently spheroidal, the shape they assume will depend

upon the amount and direction of the pressure upon them and their state of aggregation. Upon the external surface, where the cells become condensed and hardened by the evaporation of their fluid parts, and where for this reason there must be several layers superimposed upon another, they necessarily become flattened, and as in their lateral expansion under pressure, the borders of each cell impinge against a neighboring one, their outlines become angular and rectilinear. Where the surface is only covered by a single layer, as in the urinary passages and some other situations, and lateral expansion is little if at all prevented, they would of course retain an oval or circular outline. In other situations, where the capillary net-work is finer and the cells (or white globules) emitted in greater numbers, and therefore more crowded, the surface uneven on account of the minute villi and follicles composing it, and where the cavity which they line is liable to great and sudden alterations in volume, as in the intestinal tract, female vagina, uterus, etc., lateral expansion is prevented, and they become elongated and rounded; that is columnar or fusiform cells. And in still other situations, where there is no crowding and their conditions and relations are tolerably constant, they retain their original globular form, and are here spheroidal cells. This explanation of the FORM the cells assume is simple enough, but when we come to inquire how or why some of them become nerve cells, others epithelial, muscular, bone, or cartilage cells, not only our wisest judgment, but the strongest imagination is baffled. It is done in accordance with a law which lies too deep for human philosophy; and we can no more understand it than we can comprehend why or how the periosteum when transplanted will still form bone, or the liver of the carniverous polar bear forms sugar.

I have stated as a part of my hypothesis that the white globules, not containing either iron or oxygen, do not respond to the forces which act upon the red disks, become inert atoms, carried along only by the mechanical forces, and are forced out of the capillaries by the red corpuscles. But in order to effect this

extrusion the latter must be numerous enough to exert the necessary amount of pressure, otherwise the former will remain in the vessels. It will be readily perceived therefore that if the volume of the blood is much diminished, or there should occur any failure of the digestion or want of vigor in any one of the organs or functions concerned in the production of red corpuscles, by which the supply of these should fail to be kept up, no general emigration of white globules takes place, and the repair of wasted tissue ceases. The red corpuscles existing at the time of this failure continue to be convertible into white globules, and hence the last accumulate in the blood, and become both relatively and absolutely more numerous than in the healthy condition, and we have a state of general anæmia with leuchæmia or leucocythæmia.

This state will therefore be seen to depend not upon the abnormal production of white, but upon the deficient formation of red corpuscles. It might be supposed at first sight of this that it presents a strong argument in favor of blood-letting in exudative inflammation; but it must not be forgotten that even in this condition, while blood-letting must inevitably produce local irritation or inflammation by producing local congestion or determination, may give rise to an enormous emission of white cells; since as before remarked, in any partial stasis of the circulation, it is the white globules that are arrested; and these may accumulate at the point of irritation in such numbers as to insure their rapid emigration through the capillary walls. Indeed, we know that this does take place, for it is well known that abscess in the anæmic is attended with more profuse suppuration than in the strong and healthy.

From the foregoing it will be clearly understood that any irritation continued long enough to produce determination to or hyperæmia of the part to which it is applied, will give rise to an abnormal effusion of white globules (young cells), and loss of vitality in these converts them into the pus corpuscles of a phlegmon or suppurating sore. But this loss of vitality does not occur unless the cells are effused in considerable numbers

or with great rapidity. When they are effused more slowly, as they always are in the normal conditions, and as sometimes happens in chronic and subacute inflammation and irritation, they remain in contact with the capillary walls, continue to be nourished by the liquor sanguinis exuding through them, and finally establish direct vascular connections with the capillary system. If this escape of cells is only sufficient to repair the ordinary waste, no alteration takes place in the form, size or function of the particular organs; but if it is only slightly in excess of the amount required for that purpose, we have the phenomena of hypertrophy or hyperplasia of the muscular, connective and glandular tissues. In the light of this theory we can clearly understand too not only the rationale of what is called "adhesive inflammation," and the conditions necessary to secure it, but why those conditions do secure it. In an incised wound, for example, if the cut surfaces are firmly maintained in apposition, and excessive determination is prevented by the application of moderate cold or external pressure, the effusion of cells will be limited to a single, or at most a double layer, which being retained in contact with the capillaries, speedily establish vascular connections with them and with each other. But every surgeon knows that if the smallest pouch is left in the wound, into which the cells can escape in considerable numbers, suppuration will almost inevitably result, because in this case many of the cells are necessarily only in contact with each other, but not with the surrounding tissues, by which their nutrition is arrested, vascular connection prevented, and cellular death ensues.

I may remark in this connection, that while as a general rule neoplasms are produced in the manner I have pointed out, it is of course not assumed that this is always the only method of their production; for it can not be doubted that in some cases they are caused partially at least, by *proliferation* of the cells themselves; a power which most cells seem to possess during some stage of their existence. Indeed, I venture the suggestion that the granular appearance of the white globule

may be caused by a commencement of this process of proliferation. Nor do I forget that under certain conditions and in certain situations, as in closed cavities, extensive effusion of young cells takes place, which undergo neither complete organization nor suppuration. But in these cases there escapes along with the cells a quantity of the blood plasma, from whose albuminous elements their nutrition is sustained for a time; but when this source of nutrition is cut off by a cessation of the inflammatory process, or rather of the effusion of blood plasma which that process gives rise to, it will then be found that the completeness and permanency of organization attained by the effused cells will always depend upon the extent and freedom of the vascular connections which they have been able to establish with the parent serous membrane around them. If these connections are entirely wanting, partial or incomplete, the cell walls are soon dissolved by the liquids surrounding them, and with the more fluid parts of the cell are absorbed soon or late, leaving behind only the fatty elements of the globules; and this constitutes what is called "fatty degeneration." If this fatty residuüm is subjected to the action of the lymphatics, it too becomes absorbed in time, otherwise it remains as a permanent deposit, either continuing in statu quo or undergoing a process of degeneration or degradation, by which it is converted into a cheesy substance, the "caseous deposit" of the pathologists. But it more frequently happens that no organization of these cells takes place in those cavities in consequence of deficient effusion of blood plasma or of albumen in the plasma; the cells die and are converted into pus corpuscles, constituting in the thoracic cavity what is called empyema.

If the white corpuscles are formed by the red, it will be asked, What then is the origin of the latter? I venture to offer the following explanation as most probable. The beginning or base of the red corpuscle is the chyle corpuscle or globule. These, when poured into the veins by the thoracic duct, unite with or become coated by a film of albumen derived from the liquor sanguinis, which forms the cell wall; continue to

grow by imbibition; receive their hæmatin either in the spleen, mesenteric glands, or from the blood plasma itself; and are then true blood vessels, conveying oxygen from the lungs to the tissues, and under the influence of those circulatory forces I have pointed out. As soon as they are sufficiently matured they lose their hæmatin (probably in the liver, where it is excreted in the form of biliverdin), and are then white globules, whose central portions become condensed by pressure, giving to it that appearance which has been improperly called its nucleus. This condensation probably only begins when the membranous sack which constitutes the cell wall becomes filled to complete distention. The red blood disk is evidently a sack *partially* filled with fluid. For it is found that if a thin membranous sack of any flexible material and globe-shaped be partially filled with fluid and then closed (the air being first exhausted), it assumes, when immersed in a liquid, the form of a double concave disk, precisely resembling a blood disk. It is therefore a logical inference that the cell wall of the red blood corpuscle is in the earlier stage of its existence developed more rapidly than its contents, and is consequently only partially filled with fluid. When the cell wall ceases to grow, its cavity is gradually filled up by transudation or absorption through the membrane of the nutritive materials in the blood, and when nearly or quite full, is converted into a white globule, assuming of course the spheroidal form. Further nutrition can now only take place by the condensation of a part of its contents, and this accordingly begins, giving rise to the central condensation or so-called nucleation of the white globule.

As to precisely *where* the changes from chyle to red corpuscle, and from red to white globule actually takes place, we are left to conjecture. It might be inferred that the last change (from red to white), takes place in the spleen, since the white globules are said to be more numerous in the splenic, and hepatic veins than elsewhere; but if this is so the spleen must share this function with some other organ; since the entire removal of that viscus from some of the lower animals has not

been found to modify the general nutrition of the animal. It might also be supposed that this organ furnishes the hæmatin which converts the chyle into the red corpuscle, since there is usually found in the healthy spleen "numerous deep red, or reddish yellow, or black corpuscles and crystals, either single or aggregated, in masses diffused throughout the pulp substance, in chemical composition closely allied to the hæmatin of the blood";* but if this is true, it must for the reason already given only share this function with other organs. It seems not altogether improbable that nature, ever bountiful, has formed the spleen as a supplementary organ capable of performing both these functions; sharing the first with the liver, and the last with the mesenteric glands, both of which it resembles in some particulars.

The order of cell formation then is, first, the chyle corpuscle; second, the red blood disk; third, the white globules; and fourth, the true cell. But the chyle corpuscle is nothing more than a minute globule of oil or fat, reduced to this extreme state of comminution by the pancreatic juice; fat therefore is the primary base of the blood corpuscle, and assumes a position of the first importance in the process of hæmatopoiesis, and more especially those fats which most readily and quickly form permanent emulsions. Cod-liver oil, which has so long retained its popularity as a medicine, would therefore seem to deserve this confidence on theoretical grounds, since it is said to possess this property of forming permanent emulsions more than any other oily substance; for if the theory here enunciated be true, it not only improves the nutrition by increasing the deposit of adipose tissue (which many suppose to be its only mode of action), but increases the blood also by furnishing its corpuscular base. All chyle corpuscles, however, do not become blood corpuscles, because being like the white globules, neither ferrated nor oxydized, they are also, like them, liable to be forced out of the circulating fluid to form those collections of adipose found

* Gray's Anat., p. 753.

throughout the body of every well-nourished healthy animal. That they have not been detected in the act of emigration, is due to their extreme diminutiveness (the largest of them being only one-ten-thousandth of an inch) and their greater transparency. Clinical experience here also sustains theory; for while we should expect on purely theoretical grounds that the most effectual means of combatting excessive tendency to obesity would be to give those things which tend to hasten the conversion of chyle corpuscles into red blood disks, that is albumen and iron, while we should withhold the material for forming chyle corpuscles abundantly, that is fat, experience long ago demonstrated that these *are* the most effectual means of accomplishing this object.

It will be perceived that this theory is directly opposed to that of Professor Lionel Beale, which has been very generally accepted by the scientific world. This very learned and distinguished author holds, that the red corpuscles are formed by the white, and that the latter contain a "germinal matter," which he supposes to be the organizing principle in all the subsequent stages of cellular development. As he, like myself, has never seen a single corpuscle in the stage of transformation, his conclusions, like mine, are founded on pure speculation, and both must depend for their scientific recognition and acceptance on the strength and plausibility of the arguments to be adduced in their favor.

It may be, in fact has been urged against the theory I here propose, that it involves the recognition of a supernatural organizing force in the formation and vitalization of the cell wall, in fact a vital principle. I submit that the "germinal theory" of Professor Beale, which substitutes another name for the same thing, is not less marvellous or more scientific. But it is presumed that Professor Beale, like myself, does not feel inclined to deny that there is in every animal, from man down to the humblest radiate, *something* which neither the scalpel nor the microscope has revealed, or probably ever will reveal to us.

In conclusion, the writer wishes it to be understood, that

these reflections are given only as speculations, and are not to be assumed as representing his positive convictions. His only object is to point out a new direction for physiological observation and experiment, in the hope that those who have the ability, leisure and means, may pursue them, and possibly obtain solid and useful additions to our limited knowledge upon this subject. Whatever may be thought of the theory, it seems to the writer to possess much plausibility, and offers a simple and rational explanation of many physiological and pathological phenomena at present not very clearly understood.

ART. II.—REPORT ON HÆMORRHAGIC MALARIAL FEVER. By D. R. WALLACE, M. D., Waco, Texas [Read before the Texas Medical Association, and by vote of the Body, referred to the Committee on Publication, to be published in the "Richmond and Louisville Medical Journal."]

In submitting the result of such cursory and imperfect investigations as they were enabled to institute of the grave malady indicated in the above caption, your committee beg to state, that, in the performance of the task imposed, the purpose has been to bring before you for consideration such phases of the disease as, from the obscurity involved or unusual manifestations accompanying, call for and justify special inquiry and examination, rather than to attempt an exhaustive investigation. The prime desideratum in the nomenclature of a disease being that the name shall, as nearly as practicable, be expressive of the pathological condition existing and of the part implicated. Those who have given the public the benefit of their observations in the medical periodical literature of the past few years since this disease has, from its prevalence and fatality in most of the Southern country attracted attention, have from their different standpoints of observation or peculiar views entertained of this somewhat *newly arrived* in the domain of nosology, and claiming a suitable appellation as appropriate to its

character, exhibited their ingenuity in the number of *designatives* with which they have honored it; as specimens of which the following are reproduced: Hæmorrhagic Malarial Fever, Green Jaundice, Black Jaundice, Miasmatic Hæmaturia, Cachæmia Hæmorrhagica, Icterode Pernicious Fever, Malignant Congestive Fever, Yellow Remittent, Interior Yellow Fever, Purpuræmic Fever, Yellow Disease, Canebrake Yellow Fever, Swamp Yellow Fever. It is noteworthy, that while no special pathological condition is indicated, all point to the blood either directly or by necessary implication. Whether this has its origin in *appearances* only, which do but strike the senses, serving the while to mislead the judgment—the primary morbific blow being dealt elsewhere—is left sub lite. It is suspected after a somewhat careful examination of what has been written, and pretty close scrutiny of clinical facts, that a name going nearer to the primary lesion, more expressive of the true nature of the malady, might be suggested—a name indicative of its most characteristic feature—one, which though existing in other diseases is believed to cut a figure in the train of morbid phenomena in this, entitling it to a consideration it has not yet received. The allusion will be understood when the pathology of the disease (in the place for it) is treated of. Of infrequent occurrence for the last decade or two in the Southern country, it has no

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as a distinct disease prior to 1867–8, when, from its frequency and fatality, it began to attract the attention of the Profession. Numerous communications, contributed by eye-witnesses, some of no mean merit, have since appeared from various portions of the country. So little was known of it prior to this time, that so well informed an authority as Dr. Austin Flint, as late as '68, seems to confound or rather identify it with the intermittent or paroxysmal hæmaturia, reported in the "Edinburgh Medical Journal," May number, 1868, by Dr. Edward Headlam Greenhow, a disease of the British Islands, originating from exposure to cold and wet, never from malaria. Diversified as medical opinion may be in other re-

spects, in regard to its etiology, all are agreed that it is malarial. The circumstances under which the disease makes its appearance remove all question as to its cause. Therefore, it might occur to a disciple of the "change-of-type" school to put the question to one of the *no-change* way of thinking; why is it miasm produces this form of disease now, seeing it did not do so formerly under circumstances apparently more propitious than those which have existed since its general prevalence. It will be seen at once that the change of typists who are generally, if consistent with themselves, neuropathists, find no difficulty in accounting for it upon the supposition of a generally lowered condition of vitality; while the advocates of the no-change theory, looking through their humoralistic glasses, as they do, satisfy themselves with a denial of the facts. The fact, whatever the explanation, is noteworthy, and may prove significant.

THE DIAGNOSIS

will delay but little. No trouble in assuring one's self of this fell presence. The usual symptoms presenting in other forms of malarial disease, present in this; more restlessness, jactitation and retching, or more gaseous pulse, finally the characteristic discharge from the bladder settles the matter. With no disease known to the nosological annals of the country is there danger of confounding hæmorrhagic malarial fever. Simulating in its most characteristic symptom cystic hæmaturia of Southern Africa, and the Nile Valley, caused by ciliated animalculæ, an intermittent or paroxysmal hæmaturia already alluded to, yet differing in other symptoms and circumstances of origination, toto cœlo, from these its differential diagnosis presents no difficulty. We approach a portion of our inquiry—

THE PATHOLOGY OF THE DISEASE—

directing and controlling, as it does, all rational therapy, having paramount claims in our investigation. Recognizing this fact, almost every observer who has given the Profession the benefit of his observations, has conceived himself under special obliga-

tions to explain the pathological conditions involved, and while there has appeared, as was to have been expected on so obscure a subject, great diversity of opinion, no little ingenuity has been displayed, under circumstances, too, most generally so adverse to accurate research as to dampen the ardor and discourage the efforts of any, save the most resolute. This statement will be appreciated, when it is remembered that the observations embodied in and the conclusions arrived at in these communications were made and deduced not seldom in the cabins of the poor, remote from those appliances with which, under more favored surroundings, science is wont to conduct her votaries in their obscure explorations; another illustration of a great fact in the history of medicine, never to this good hour sufficiently appreciated, that the great granite rocks of truth and fact which enter into the foundation and constitute to no small extent the superstructure of medical science, have been dug out of the quarry by the laborious country practitioners, who, though performing the labor, get none of the honor; this being reserved for the few, who, favored by fortune with more leisure and nicer appliances, polish and adjust them in that great temple of medical science, whose glittering sheen fixes the admiration of the world. One of the earliest of these pioneer explorers, a man whose broad, practical good sense, powers of accurate observation and extensive learning, would make him an ornament to any walk or department of our noble art, Dr. J. M. Morrison, of Hearne, Texas, published his views in an essay entitled "Jaundice with Hæmaturia," in 1867. Without indicating any opinion as to where or in what way the primary impression is made, resulting in a series of morbid phenomena, which taken together constitute the disease, he holds that the hæmaturia is to be explained thus: The effete blood corpuscles not being removed from the circulation by the secretion of bile, as in health, become eliminated by a vicarious action of the kidneys; that they thus assume a state of congestion predisposing to hæmorrhage; that in this condition of the renal organs, the blood itself is retarded in its course through the ab-

dominal viscera by inaction of the liver, the while taking on a more hæmorrhagic tendency in consequence of not receiving that peculiar impress it is the office of the liver to impart to it, said tendency being heightened by the solvent principles contained in the bile acid, resulting in hæmorrhage. Dr. Charles P. Gordon, of Dalton, Ga., reads in the hæmaturia "an active congestion and inflammation of the renal organs, attended with all the danger and fatality consequent upon an obliteration of their proper function and of a retention in the blood of those elements excreted by them." Dr. W. H. Green, of Americus, Ga., delivers himself thus on the subject: "The exhaustion, stupidity and low muttering delirium indicate derangement of the cerebro-spinal system, and the alteration of the capillary circulation and of respiration, of the secretions and excretions, of the structures of the spleen and kidneys, are indicative of derangement of the sympathetic system of nerves. The poison acts primarily upon the blood, altering and destroying its corpuscles." Dr. R. F. Michel, of Montgomery, Ala., states that in all the cadavera in which he inspected them "the kidneys were enlarged, presenting the appearance of having passed through severe inflammatory action, in consequence of which the excretion of urea is prevented. It accumulates in the blood, and unless vicariously eliminated must sooner or later produce its pathological effects." Dr. W. D. Brodnax, of Cameron, Texas, in the July (1872) number of the "Richmond and Louisville Medical Journal," on the subject of malarial diseases, thus discourses: "Malaria produces its first impression on the sympathetic or organic nervous system." Dr. Francis Barnes, "New Orleans Medical Journal," March number, 1867, in an article entitled "Nerve Force and Blood Changes," a production of great pretension and some merit, finds the secret of the whole matter, the key that fits into and unlocks every obscurity and intricacy, investing the mysterious phenomena developed in an attack of this fell malady. "The affection is an assemblage of symptoms, the result apparently of an impression on the nervous centres." * * *

"These observations," resumes the learned Doctor after detailing the most striking features of the disease, "these facts and a number of others of like character should prove conclusively, first, that the chemical composition of the blood itself is influenced in a most wonderful manner by the vital action of the nervous system; secondly, this action alone is sufficient to account in a great number of cases for an altered and broken down condition of the blood, without having to account for it by the theory of ferments present in the blood in the shape of poisons acting directly on its chemical composition, instead of indirectly through the nervous system." * * * * * * * * * * "We know that the nervous system has vital action over the chemical composition of the blood." If nervous influence will occasion different products, as secretions from the same kind of blood, it is not difficult to conceive that the nervous action can alter and modify the blood itself; and that an altered condition of the blood may not only be found when the death has occurred from the instantaneous destruction of the life of the nervous system, but may exist to the detriment and distress of all the vital functions from a dynamic impression of the nervous system, which, however, has not been immediate but only the remote cause, should death not ensue immediately from this impression. Dr. B. M. Cromwell, Albany, Ga., puts us in possession of his opinion. "Now as to the pathology of hæmaturic fever, I regard the disease," says he, "as a blood poison produced by the imbibition of an inordinate dose of malaria." * * * * "From many years observation of malarial disease, I am convinced the blood primarily suffers in all malarial poisoning, and it suffers by reason of its disks—its oxygen carriers." Dr. J. H. Sears, of this city, sets forth in some unpublished views which he has kindly submitted to inspection the following pathological interpretation of the "situation:" "The primary influence of the poison is on the lymphatic glands, particularly the spleen, the chief of supply to the blood of white corpuscles. The miasm exercises a peculiarly stimulating or irritating effect upon this organ, increasing

its size and heightening its function; thus producing a larger number of white corpuscles than necessary to a normal condition of the blood, destroying the balance between the white and red corpuscles. Impressed with the circumstances under which they were generated, these corpuscles fail to fulfill their proper office; seem more independent; are not disposed of as originally intended; are diverted in their normal career, and may become merely melanæmic. They increase pari passu, with the stimulus supplied; the red the while decreasing, until instead of the normal proportion, one white to 300 or 400 of the red, they are about equal. The source of the red blood declining, a larger number of shriveled, wrinkled, contracted bodies are seen floating in the circulation in a melanic or moulting condition, ready to be cast off as excrementitious matter. This condition existing for a longer or shorter time, according to the nature of each case, there appear melanæmic bodies in the white corpuscles, an abortive effort of nature probably to supply the red corpuscles. These bodies are constant in malarial fevers of serious import. When this dyscrasied condition of the blood has existed for any considerable length of time, the result most generally is a chill, by which the vital action is lowered, and the action of the heart increased, but correspondingly diminished in force. There ensues spasm or contraction of the superficial capillaries, which forces a large number of these adhesive white corpuscles, melanic and melanæmic bodies, into the viscera and upon the mucous surfaces. Thus the minute capillaries of the brain, liver, spleen, and kidneys become clogged and their circulation arrested. Thus the functions of these organs are interrupted, predisposing to hæmorrhage, especially in the kidneys and the mucous surfaces of the stomach and bowels. When reäction returns, the superficial capillaries are relaxed, and these corpuscles and other bodies force themselves into them, causing so much distention as to result in an exudation of serum stained with hæmatoidin from the débris of the corpuscles and melanic bodies, producing discoloration of skin or icterode appearance."

These interpretations of the pathological conditions existing in this grave trouble, it is hardly necessary to state, illustrate respectively the humoralistic and neuric views. It were not difficult to construct a theory just as plausible and as much in accordance with the facts observed from the standpoint of those who hold, to employ the language of their great chief, Rudolf Virchow, of Berlin, "that the cell is really the ultimate morphological element in which there is any manifestation of life, and that we must not transfer the seat of real action to any point beyond the cell."

Of these theories all, some fall shorter of, some approach nearer to the truth; some exhibit a more superficial; some a profounder understanding of the mechanism of life. But all are struggling toward the light—each one a nisus in the right direction—all may serve as beacons and guides to more enlarged views, as light increases, nuclei, in the meantime around which observation may gather her facts for future reference.

A single observation additional: whether the blood or nerve centres, whole nervous mechanism, ganglionic system, or cell action receive the primary morbific impression, one fact seems sufficiently clear; the nerve force falls so low, so much beneath the normal standard, whether in consequence of the influence exerted upon innervation by malarial intoxication, directly or indirectly, through the blood from changes impressed on it, thereby causing a lesion of nutrition and secretion necessary to the functional activity of the several tissues, systems, and apparatus of the economy; to repeat, the nerve force falls so low, its action becomes so enfeebled that it loses the directing, controlling, conserving influence over the economy normally belonging to it. Hence it is not unreasonable to conclude that, in addition to other sources of destructive change in the vital fluids, the elective affinities normally existing between the elementary constituents of the blood, and which in health are presided over and directed to the conservation of organic life by nerve force, are left to riot in all the licentiousness of their chemical tendences. Who, in this event, may conjecture the result to the

organism? In the supposition itself there would seem no inherent improbability; certainly none in the phenomena observed. It were much to be deprecated, that in the

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of this, at the best, fatal affection, there is so little consensus of opinion or uniformity of practice of malarial origin, and attended with what he conceives to be great biliary derangement. One practitioner insists upon the exhibition of mercurials even to the extent of obtaining their constitutional effects; while the other reads in the spanæmic condition unmistakable contra-indications to their use, deprecates them as defibrinizers and spoliatives, and will have it, so far as the liver is concerned, its only effect upon that important viscus is to *diminish the secretion of bile;* while a third party confines all his hopes to the free use of opiates to quiet irritation existing in nerve centres; the fourth is quite sure that their only effect will be to dry up the secretions, albeit so necessary to the preservation of the economy to prevent fatal toxæmia already imminent. A miasmatic disease endowed with periodicity, however masked, the only rational expectation of a cure, urges another, is in anti-periodics, and where shall we find anything like, anything second to the inevitable sulphate in all the domain of therapy? "Hold," cries an authority quite as respectable and claiming much experience in the treatment of the disease, do you not see that the whole nervous mechanism is ajar already, and do you not know that it is but adding fuel to fire to give quinine under such circumstances; and besides, do you forget that the cases are not few in which your favorite salt has produced this identical disease? Iron, iron, insists an authority, as a hæmostatic, iron for the spanæmia to furnish this necessary constituent for the hæmatin in the red corpuscles so indispensable to intra-oxygen, and for want of which the animal heat failing to be generated, is declining. By no means, returns his neighbor practitioner, it is as clear as the sun in mid-heaven, that your ferruginous preparations are of no worth, the stomach being in such condition, that however needed, they can not be intro-

duced into the blood; moreover, your so much lauded muriatic tincture will only serve to irritate still more the stomach, and prevent, as incompatible with it, the exhibition of a remedy of more worth than all others besides. "My entire reliance," puts in a practitioner over yonder, "is upon the free use, internal and external, of turpentine." "It may be good," replies one over here, "but never having seen any indication for its use, have not tried it." "Use acids freely—lemons, lime-juice—they are grateful to the patient and antidotal of malarial intoxication," confidently exclaims Dr. A. "Do no such thing, the idea is preposterous," impatiently retorts Dr. B., "the stomach is full of them already, use antacids, alkalies." Bewildered by such, not diversity simply, but contrariety of opinion, the conscientious medical man, anxious to give his patients suffering from this, as from all other diseases, the benefit of all that is known in the healing art, turns away in disgust. Possess your spirit in patience, friend. It is no worse in this than in most other diseases. It only seems so, because in a new disease, draped in obscurity, you are over anxious for certitude. Discard the expectation. It belongs not to our art. Specifics are but the dreams of distempered imaginations. Our bodies are too fearfully, too wonderfully made for any well-informed medical man, in the present condition of our science, to think twice of the possibility of specifics. The empiric, and he only, naming the disease, plies his specifics. An age of adventure, fertile in experiments and daring in their application; an age of mental activity and intellectual independence; an age in which the "*Marcus dixit, ita est,*" paraphrased:

> "Did Marcus say 'twas fact? then fact it is;
> No proof so valid as a word of his"

has been left in the past—*has played out.* In medicine, as in every other department of human effort in our times, men must act for themselves, *pro re nata.*

In regard to the treatment of hæmorrhagic malarial fever, it will be found, it is believed, that there is a class of cases—and strange enough this class is most numerous in the most in-

tensely malarial districts—that will do well and recover under any or no treatment; while there is another class—most numerous in proportion to the whole number of cases in those districts in which malarial fevers are not very prevalent, and in which this particular form of the disease is rarest—that will die with any treatment. Thus much premised, it will not be expected that any particular line of treatment should be indicated. There are few diseases in which it is less admissible. In this, as in so many other affections, the cry not seldom comes, ho! here is the way, walk ye in it. The cool "nil admirari" is as becoming the sensible physician on such occasions, as it is philosophic in all the walks of life. No sensible physician is mislead for a moment by these ignes fatui, whatever their vulgar glare. The true medical man, who has the root of the matter in him, will treat any and every case according to the great recognized fundamental principles that constitute the basis of the healing art. Not the "sea-weed" of the Roman satirist is "viler" than any and every attempt to prescribe a fixed line of treatment for a given disease. Ice, acidulated drinks, effervescing mixtures, small doses of calomel and morphine—the latter especially where there exists much centric nervous irritation—to quiet stomach; sponging with cold water; the cold douche, followed by free use of turpentine and other stimulating liniments and epithems to restore equilibrium of circulation; such quieting remedies or measures as may seem most eligible in each particular case—for no two require precisely the same—to quiet extreme restlessness and jactitation. Such treatment addressed to the primae viae as special indications may point out, and finally in those cases in which there exists well marked periodicity, the timely and unsparing exhibition of the sulphate of quinine constitute a brief outline of a treatment such as, it is believed, will be found to commend itself to the recognition of the well informed physician. Various multiplied numbers of other agents might be mentioned as useful in fulfilling these indications. Further specification is not deemed called for. It would seem, that if the conjectures—for they amount to little

more—of some who have given much attention to the investigation of this disease be true, that that portion of the nervous system, whose office it is more especially to supply innervation to the various processes of organic life, is more immediately involved, the liberal exhibition of belladonna by mouth, or where that mode of using it is not practicable, the subcutaneous being employed—using the sulphate of atropia instead of the cruder preparations—ought to be of service. Submitted to the test—nullum ego cognosco remedium nisi quod tempestive usu fiat tale—this agent, whether from mistaken pathological indication or short-coming in therapeutical efficiency of drug, has not met expectation. A word—its importance demands it—of the sulphate of quinine in this disease. It is not at all difficult to understand why those who do so commend it as *the remedium principale* in all cases. Of miasmatic origin, as all admit, manifesting in most cases well pronounced indications of periodicity, this agent, facile princeps of antiperiodics, would seem to be especially indicated—called for by the nature of the disease and gravity of the symptoms. That in by far the greater number of cases it will accomplish all that is within human competence in an antiperiodic direction is not questioned; but that there is a class of cases to which it is not adapted; that there are cases of which it is the immediate or exciting cause, is an opinion that has become too fixed in the minds of a portion of the Profession, is too well established in fact to be dislodged by ridicule or pushed aside by the cry of authority. That it has supervened upon the exhibition of a single dose of this salt in cases in which it was not previously threatened, under circumstances precluding the possibility of mistake, and this repeatedly is a fact too well attested in this community to admit of question. Now, in these cases, admitting them such, can it be supposed that its action can be other than deleterious? If so, upon what principle? "Similia similibus curantur." The principle, well enough, perhaps, for a disciple of Hahnemann, is not admitted here. "But quinine is antidotal of malaria." It is denied that quinine has any such property in any true

sense of the word; in any such sense as the sesqui-oxide of iron is antidotal of arsenious acid. "If not antidotal, how does it cure malarial diseases?" It is possible there may exist some misapprehension in regard to the action of this familiar agent. It is not uncommon to hear it spoken of as an arterial stimulant and sedative as well, in the same breath. We have grown familiar with the expression, *sedative doses* of quinine. If an arterial stimulant, it is a very singular one—one wholly sui generis. That there are certain conditions in which it acts as an arterial stimulant is true, but not more so than that in certain others, it has no such effect; and under certain other conditions it acts as a nervous excitant is not more true, than that under others its action upon the nervous system is powerfully depressant. It is concluded, therefore, that its remedial effects are in virtue of neither its stimulating nor sedative properties. How does it cure the chill? As as an antiperiodic. There are remedies for these affections which, it is believed, act differently—arsenious acid and the hyposulphite of soda; e. g., the former by its tonic, the latter, probably, by its anti-zymotic property. By an antiperiodic, in this connection, is meant not simply a medicinal agent, preventing the recurrence of a paroxysm, but one doing so by virtue of equalizing the circulation, preventing the recession of the blood from the superficial capillaries and its accumulation within the viscera; effecting this result by its power of distributing, so to speak, innervation normally through the system. This is believed to be precisely the modus operandi of the sulphate of quinine. It is believed, further, that there are conditions of the human body in which such action is not only *not* remedial, but positively mischievous. Some such explanation as the following may serve to place the matter in its proper light: Innervation is directed to such parts of the body as the wants of the same may require for some special purpose or exigency; e. g., to the stomach after the ingestion of food, to the uterus to sustain the orgasm necessary to parturition. Now, in the absence of any other explanation of the fact, that the sulphate of quinine does bring on, is occa-

sionally the exciting cause of hæmorrhagic malarial fever, this hypothetical one is given: From some part or parts of the economy already belabored by the enemy (malaria), and upon which an extra amount of innervation has been determined to assist it in its efforts to sustain itself, the quinine by its equalizing properties diverts such extra nerve force, depriving such part or parts of the means of support that nature has provided, and in this manner the way is open for an accession of the disease. If this explanation, or anything like it, be true, may there not be conditions of the system in attacks of this disease in which this agent, so valuable in almost all cases of malarial trouble, will aggravate the symptoms? There are those who feel assured that such is the fact. It may be from some such action as that just supposed; it may be that it interferes in some other way with innervation, or possibly it is detrimental in some other way. It is but stating the truth to admit, that in those cases in which the quinine aggravates the symptoms, most of them at least, nothing seems to do much good—it is just these cases which show least indication of periodicity, those cases that generally prove fatal under any treatment.

As a suitable conclusion for the paper which has already greatly transcended the limits contemplated, a few thoughts on the

PROGNOSIS

of this dreaded disease are submitted. For those cases in which the apyrexia and recurrence of the paroxysm are most decidedly pronounced, and during the former the urine clears up or shows a tendency to do so; and in which quinine is well tolerated, causing little derangement of innervation, a favorable termination may be confidently expected. On the other hand, in those cases in which pyrexial flushes and rigors alternate at short intervals, in which there is great nervous derangement, in which the discoloration deepens, surface becomes mottled and the temperature declines; stasis of the superficial capillary circulation, pulse becoming more gaseous; early coming on of suppression, accompanied by symptoms of uræmic poison-

ing, there is little to hope from the resources of our art. There seems to be great difference in the fatality of the disease in different sections of the country. In portions of Alabama in the years 1867–8, the larger portion of the attacked died. The accounts from some districts even state that not a case escaped. The mortality ranges, as given by different authorities, from 25 to 50 per cent. In some localities it would seem to amount to little more than any other form of intermittent fever. Some practitioners are reported as stating that they have treated many without ever having lost a case. Their statements true, they have certainly met with a very different class of cases from those occurring in this part of the country.*

ART. III.—IS DIPHTHERIA CONTAGIOUS. By R. L. PAYNE, M. D., Lexington, N. C.

The contagiousness of diphtheria is still a mooted question among the best physicians of our day. Some of them assert that it certainly is contagious; others do not hesitate to declare it non-contagious, while another party regards the question as still "sub judice."

J. Hughes Bennett tells us that the disease "appears to be infectious;" and Tanner says "diphtheritic affections now and then appear sporadically, they often seem to be endemic, while they are also epidemic, and *contagious* (not infectious)."

Slade gives us the opinions and arguments of various authors, the majority of whom believe that diphtheria is communicable not only by actual contact, but also by infection under certain circumstances, and he says: "We are able to detect certain hygienic or individual circumstances which undoubtedly had their effect, either as *direct* or as *predisposing* causes."

Hartshorne asks the question: "Is diphtheria transmitted by

* In McLennan county the per cent. of mortality is believed to be from 25 to 35 of the whole number attacked.

contagion?" and answers it in these words: "I incline to believe that it is sometimes so, although clearly not dependent upon that mode of propagation in its epidemic migrations. The certain examples of its extending from one person to another are few; but I think I have known *one at least.*"

Again, Flint, in his article upon this disease, puts the query: "Is the special cause a contagious virus, or an infectious miasm; in other words, is the disease communicable?"

While he does not commit himself by answering the question which he asks, he gives the following caution: "Regarding the question of communicability as sub judice, it is certainly proper that *precautions* should be taken to *avoid needless and excessive exposure.*"

Trousseau, Bretonneau, Greenhow, Ranking, Jenner, and many others, have taught that the disease is communicable.

I have treated sporadic cases of diphtheria, and I have seen it prevail both endemically and epidemically. Is it ever contagious or infectious? From my experience with it, I very strongly incline to the opinion that it is both under certain favoring circumstances, and although I do not hope or expect to settle this vexed question, in regard to which so many of the brightest lights of our Profession differ so essentially, yet having since the fall of 1862 treated more than fifteen hundred cases of the disease in all its forms, I respectfully desire the privilege of expressing my humble convictions touching this point, and of giving only a few facts of many which have presented themselves in my practice, and which would seem to indicate that diphtheria is sometimes contagious and infectious in its character.

In the month of October, 1862, while I was in the act of cauterizing the throat of a patient afflicted with a malignant attack of diphtheria, the patient coughed and threw a piece of membrane through my parted lips into my mouth. I immediately spit it out and cleansed my mouth with repeated washings of brandy and water (no better wash being convenient), but in a week I had a very severe attack of the disease, which

came near bringing me to the grave, and from the effects of which I was long weary months recovering. Mine was the first case of six or eight who subsequently had it in my family.

I had a little two-year old boy, the very pride of my heart, who always seemed fonder of me than my other children. One day while I was asleep the little fellow clambered upon my bed and awoke me by throwing his arms about my neck, and pressing his lips against my own. His was the next case in my family, and I verily believe that that kiss of affection cost the child his life, for although he did not die with diphtheria, his constitution was so enfeebled by it that he could not resist an attack of scarlatina, complicated with lobular pneumonitis, which followed the diphtheria in quick succession.

These cases happened during the prevalence of a most terrible epidemic, and may be considered by the Profession as simply results of the epidemic cause or influence; but I shall ever believe that I contracted the disease from the direct contact of that piece of membrane, and that the infectious seeds of death were sown for my poor child when he inhaled my hot and pestilential breath.

While I was confined to my bed with the above-mentioned attack, three of my cousins from Virginia came to visit me. There were no cases of diphtheria in their county when they left it, nor when they returned to it. They remained a week or ten days with me, and then returned to their homes in apparent good health, but in less than three weeks after they had gone from my house, all of them had the disease, and one of them died, and *they were the first* of many other cases in their families and neighborhoods.

During the same year I had twenty-eight cases on the plantation of Mr. Hargrave, which was situated on the waters of Swearing creek, in the Jersey Settlement of this county (Davidson), and to my certain knowledge there was not then another case for miles around. The disease first made its appearance in his white family, in the town of Lexington, and there was daily communication and passing of servants between the

two places. Thus the disease was carried from the home in town to the country plantation.

On a Saturday evening a negro man, whose wife was sick on Mr. Hargrave's place, came up from Mr. Bradshaw's plantation, which lay some five miles down the creek. This man nursed his wife and waited upon her until Monday morning, went home, and before the end of the second week from that time had the diphtheria, and was the *first case*, by some days, of many others who suffered from it on Bradshaw's plantation.

My father's plantation was situated eight miles north of Hargrave's, and at the time at which I write there was not a case of diphtheria for two miles around it. A woman belonging to my father went down and spent a week with her mother, who belonged to Hargrave, and who was dangerously ill with diphtheria. In the meanwhile, she returned to father's plantation, and in a short time had the disease, and was the *first* of twenty other cases, who subsequently had it on the plantation.

These are only a few of many instances which I could adduce to show that the *first person* in large families who had the disease, was the one who had been exposed at the bedside of a patient suffering with it.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—RECENT IMPROVEMENTS IN THE SCIENCE AND PRACTICE OF SURGERY. By J. W. THOMPSON, M. D., Paducah, Ky.*

As chairman of the Committee on Surgery I shall endeavor briefly to present some of the recent improvements in the science and practice of that branch of the profession, understanding that to be the duty with which the committee stands charged.

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* Present President Kentucky State Medical Society.—ED.

WOUNDS.

In the treatment of wounds the course pursued by leading surgeons, both in Europe and this country, is to do very little in comparison to the practice of former days.

Cleanliness is regarded as one of the most essential things connected with the treatment of all classes of wounds, as is also the strict observance of the laws of hygiene in all the surroundings of patients of this class.

It has also been satisfactorily established that the crowding together of large numbers of wounded is very detrimental, and therefore the system of smaller hospitals is being adopted in portions of the world, and many efforts are being made to prevent such concentration.

The practice of treating wounds with ointments and salves has in a great measure been thrown aside by intelligent surgeons—water-dressing, both cold and warm, and the application of solutions of carbolic acid and permanganate of potash, and other disinfectants, being relied on almost exclusively.

There are some eminent surgeons who do not think that carbolic acid has proven a very successful remedy in the treatment of wounds, and who have therefore discarded it from their wards and practice. Their number, however, is comparatively small, most surgeons regarding it as an invaluable remedy.

The treatment of wounds by application of cotton-wool is recommended by some London surgeons, and in this country especially by Professor J. Warren Green, of the Medical College of Maine.

STUMPS.

There seems to be but little change in the treatment of stumps from amputations. Many surgeons recommend and practice the introduction of fewer sutures, leaving wounds well open, to facilitate thorough drainage. This seems to be based on sound judgment, and it is thought will increase the percentage of success.

AMPUTATIONS.

There is little to be said of improvements in amputations.

Experience during our late war and since has shown that the success of knee-joint amputations is about seven per cent. greater than that of lower third of thigh. This advantage in saving human life is very great, and should encourage us to amputate at the knee-joint when the choice is between those two points.

It is regarded as a settled fact that secondary amputations at the hip-joint are more successful than primary operations. The reason for this is that the system, having become inured by prolonged suffering and drainage from wounds or disease, bears the shock of the amputation better than when in a primary condition.

To sever one-fourth of the human body is a very serious matter, and should be deliberately considered in consultation with the ablest surgeons in reach. Yet this operation in some instances offers the only hope (faint, it is true,) for the patient's life. And when a fatal result is inevitable without such an amputation we should operate, and give the patient in this, as in all cases, the benefit of even that slender chance.

A surgeon with knife in hand, ready to perform hip-joint amputation, should feel as the great Velpeau, who, before performing any capital operation, offered a prayer to the Almighty that he might do right. I make this allusion to illustrate the gravity of hip-joint amputation.

RESECTIONS.

The reports from resections of bones are favorable and encouraging. The results from this operation during our late war have done much to establish its success on most, if not all, the bones of the human body.

My report on this subject, embracing forty-eight cases, read before this Body at its last meeting, gave the condition of the limbs at from three to eight years after the operation, and showed most satisfactory results. The statistics I have collected since are still much in favor of resection over amputation.

Many surgeons, it seems, prefer making hip-joint amputation to resection of the upper third of femur. The success of the former is but little encouraging, while experience of the latter is sufficient to give us a hope that it will save a much larger percentage of lives. Every true surgeon will strive to discover the operative procedure which will save most lives, and keep his ambitious desire for display in the amphitheater or before the observing crowd of medical men, in perfect obedience to the course that will produce the much-desired result. Resection of bones is being much more extensively performed in civil practice in this country, and also in Europe, especially in France and England. While there are some points yet unsettled, I think it sufficiently established to be very favorably regarded by the Profession.

EXCISION.

Excision of bones was practiced to considerable extent in the late Franco-Prussian war; but sufficient time has not yet elapsed to demonstrate its success or failure. But the known zeal of both French and German surgeons assures us that at the proper time the results will be published to the Profession, which will greatly assist in placing the true estimate upon the operation.

FRACTURES.

In noticing improvements in treatment of fractures, I shall quote a very expressive and forcible paragraph from the preface of a translation of Velpeau's "Surgical Lessons," by W. C. B. Fairfield, of Dorchester, Massachusetts: "Velpeau advances with the heavy tread of a mighty battalion; tears off the cerements that have so long enwrapped the fair form of surgery; and if she stands stripped of the bandages and appliances that have so long arrayed her, she is all the more graceful and lovely."

This elegant comment is upon a little book of one hundred and three pages (his last utterance); but there is more compressed surgical truth in it than in any book it has ever been my fortune to read. I peruse it two or three times every year,

and am of the opinion that if he had done nothing else for surgery, by writing or otherwise, it would still be a monument so enduring that posterity for ages to come would refer to him as "Velpeau, the greatest surgeon of his day." Surgery does stand stripped of the bandages and splints of former days, and there is not only a beauty in it, but practical good has resulted from it, which can not be overestimated. It enables us to watch the condition of wounded limbs, and to meet promptly any difficulty that may suddenly arise, thereby saving a much greater proportion of limbs and lives.

Improvements in the treatment of fractures apply more particularly to the lower, but in some measure to the upper portion of the limb.

The use of extension with adhesive plasters and the perineal band in fractures of the thigh—first introduced by Dr. Swinburn, of New York—has given satisfaction, and is, in the experience of most surgeons, best adapted to this class of fractures. As I have before stated, the surgeon can more closely observe the condition of the limb, and meet promptly any unpleasant symptoms that may threaten. The use of sand-bags in treatment of fractures of the thigh and leg is exceedingly valuable. When support is required, I am satisfied that they are preferable to any kind of splints, on account of their adaptability and their coolness in the warm season. I have used them a great deal, with most gratifying results. The use of plaster of Paris and the immovable paper bandage dressing belongs to the recent improvements in treatment of fractures. They are much used, and doubtless possess great merit.

Professor Hamilton, of Bellevue College, among others, recommends in fractures of the shaft of the humerus bandaging over the splints from the elbow up, not to include the forearm, taking the position that dressing should not be tight enough to obstruct circulation, and therefore the bandage to the forearm is superfluous and unnecessary. The suggestion seems to be a good one, and deserves the consideration of the Profession. During our late war, while I was in charge of Forest Hospital

(Confederate) at Lauderdale Springs, Miss., Dr. S. N. Denham, assistant surgeon in charge of Ward No. 1, almost invariably began to apply the bandage in fractures of the shaft of humerus at the elbow-joint. I felt some uneasiness about his course, but he assured me he would watch his cases closely and allow no bad results to come from it, and no unpleasant symptom was produced from this manner of dressing in his hands.

The great progress in treatment of fractures is in being able to keep the limb under vigilant supervision, and the shortness of time required to apply the dressing, which is no small matter in busy practice.

DISLOCATIONS.

The principal late improvements in the treatment of dislocations are the substitution of manipulation and anæsthesia for the severe treatment with the pulley and other harsh procedures.

ORTHOPEDIC DEFORMITIES.

Orthopedic surgery is still steadily advancing in this country and in Europe. Opinions are very different now from what they were a few years ago in reference to the causes of club-feet. Until recently these deformities were attributed to contraction, and the knife was relied on almost entirely as the treatment. Scientific investigation and experience have proven that the difficulties are due for the most part to paralysis or want of nerve-power, and therefore the treatment which seems to be proper has substituted friction, electricity, and suitable mechanical appliances for that of severing the tendons. More credit is due to Barwell, of London, than to any one else for the discovery that paralysis is most frequently the cause of the different varieties of club-feet, and to the same distinguished surgeon are we indebted for many of the mechanical appliances now successfully in use by our Profession. But we owe most to Scarper for proper appliances in the treatment of orthopedic deformities, most of the improvements being to a great extent modifications of his original club-foot shoe. Surgeons in this

country have done much in the advancement of this branch of the profession—Sayre, Andrews, Prince, and others.

RECTUM.

Much and satisfactory progress has been made in the treatment of diseases of the rectum. It has been simplified, and much comfort and good have been the results. No longer are patients required to sit in hot water, and strain to bring the diseased parts down to a point accessible for an operation. Forcible dilatation with the thumbs first placed in opposition readily develops the hæmorrhoidal tumors, and the operation is comparatively easy, with no permanent injury to the sphincter muscle. Dr. J. C. Nott has invented what he calls a rectilinear écraseur. He claims that with this instrument we may avoid the hæmorrhage liable in the use of the ordinary écraseur. He also holds that it is less apt to produce rectal stricture, as it does not embrace so much tissue. This invention is regarded very favorably by the Profession, and promises to be one of the most valuable of the recent instrumental improvements. The écraseur is used by many surgeons for the removal of hæmorrhoids, but many yet claim that the old plan of operation by ligature is more successful. Among the number is that classic scholar and scientific surgeon, whom the Profession in this country regard as the leading authority in diseases of the rectum—Professor Van Buren, of Bellevue College, New York. He regards the injection of cold water with a simple Davidson syringe as one of the most valuable adjuvants in the treatment of diseases of the rectum, on the ground that it prevents constipation and gives tone to the bowels.

Dr. Gustave Simon, Professor of Surgery in the University of Heidelberg, has introduced a method of exploring the rectum by the insertion of the whole hand and portion of the forearm, the patient being thoroughly etherized. In adults the hand is easily introduced (unless its circumference exceeds nine inches) without injury to the sphincter. In children he only inserts two fingers. If the sphincter muscle is very rigid, it may be severed. He prefers to make the cut near the os coc-

cygis. He passes his hand to the sigmoid flexure. Dr. Nussbaum, of Munich, is said to have practiced the same method, passing his hand beyond the sigmoid flexure. If this procedure should prove successful, it may be the means of doing much good, enabling us to remove the various causes of obstruction in the bowels, and examining the condition of the womb, ovaries, and other contiguous organs.

URETHRA.

Stricture of the urethra is now in almost every case treated safely and satisfactorily, it matters not how narrow it may be. Gradual dilatation is very favorably regared by most surgeons. An important and valuable injunction from the learned Sir Henry Thompson, to use no force in dilating stricture of the urethra, is, I think, based upon sound knowledge. The old plan of forcible dilatation often produced a false passage, which is a serious misfortune. Holt's and Sir Henry Thompson's instruments for forcible rupture of stricture are both valuable inventions. I have often used Holt's instrument for gradual dilatation, with gentle instead of forcible manipulation, with most satisfactory results.

Internal urethrotomy is now confined for the most part to stricture in the spongy part of the urethra and in front of the subpubic curve, though I do not think internal division of stricture is in much favor. Electrolysis, a means of treating stricture, has been recently recommended by Malley Bantista, and other surgeons of New York; but this new method, not having stood the test of time and experience, can not be pronounced upon here. The aspirator, a very recent invention, is regarded by many as a valuable addition to surgery. It is used for drawing off fluids from the body, more especially from the cavities. I have read several reports during the past year of the use of this instrument in pumping urine from the bladder, in retention from impermeable stricture and other causes, with perfect success, and followed by no inflammation or other unpleasant symptom. Should it prove to be a safe and satisfac-

tory mode of relieving retention of urine, it will be entitled to high rank among modern improvements.

LITHOTOMY.

I know little of improvement in lithotomy during the past few years. The mooted question seems to be, which is the more successful operation—lithotomy or lithotripsy? It is difficult to justly compare the merits of these operations; for by lithotripsy only small and soft stones can be removed, while the larger ones are reserved for lithotomy. The danger of the operation is certainly increased in proportion to the size of the calculus. If by lithotripsy large and hard stones could be removed, a reasonable comparison might be made, but with the present adaptability of the operation it can not.

I see a new suggestion in lithotomy made by that promising young surgeon, Dr. Ashurst, of Philadelphia, in his work on Surgery. It is in dilating the urethra and neck of the bladder to pass the finger over the curve of the staff instead of under. He thinks the dilatation is more effectual and safer. Before Dr. Ashhurst's Surgery was published I had pursued the same course in three operations with success. I made no publication of it, and therefore Dr. Ashhurst is entitled to credit for whatever is original in it. Lithotomy is now, and has been since it was first well established by Cheselden, considered one of the most capital operations in surgery.

LITHOTRIPSY.

Lithotripsy was resorted to at a very early day, but fell into disuse to a great extent on account of the clumsiness of the instruments used, or want of proper skill in operators of that time. Civiale invented a lithotrite in the year 1824, which he used successfully, and from that time lithotripsy has been well thought of, and the instruments used in the operation have from time to time been much improved by himself, Leroy, Sir Henry Thompson, Furguson, and others.

Dr. E. M. Moore, Professor of Surgery in the University of Buffalo, New York, has recently made a very ingenious inven-

tion for grinding or shaving the stone and completing the operation at one sitting—an advantage not afforded by any other instrument in use. Dr. Moore has used it with success, and should it continue to give such satisfaction it will be invaluable, and will settle the question as to the relative success of lithotomy and lithotrity, and doubtless give preference to lithotrity. The instruments of Sir Henry Thompson require often several sittings to complete an operation, and with the same success at one sitting the invention of Dr. Moore will be received as a great improvement. Dr. Moore, with many others high in the Profession, have considered lithotomy as the most successful operation. Lithotrity can only equal it when the operation can be finished at one sitting.

OVARIOTOMY.

The history of the operation of ovariotomy must excite the pride of every medical man in Kentucky, especially if he is "to the manor born." Of all major operations, this is to-day attracting the most attention, not only in this country but throughout the Old World. This is undoubtedly entitled to be called *the* major operation in surgery. Much progress has been made in its success in the last few years, and it is not surprising when we consider the talent of such men as Spencer Wells, Baker Brown, Clay, and Keith, in Europe, and in our own country, Washington and John Atlee, Peasley, Thomas, Sims, Emmet, Kimballe, Dunlap, and our own Bradford.

There are many points connected with this operation which time and experience only can decide. Spencer Wells and Keith have lately made several operations of ovariotomy with the knowledge that pregnancy existed, without causing abortion or producing a fatal result. This is a new era in surgery.

The plan of injecting warm water or *intra-peritoneal* injections for threatened *septicæmia*, first introduced by Peasley, has done great good, and must be considered among the modern improvements. It is questionable whether this will not add as much to the fame of this distinguished surgeon as his late excellent work on ovarian tumors.

Electrolysis has also been recently recommended for the treatment of ovarian tumors, but the limited experience with this mode will allow us merely to revert to it, and leave its just merit to be vindicated by time.

Would that we could discover some plan of treatment other than cutting a woman open for the relief of a disease which neglected must in a short time result fatally.

Vaginal ovariotomy is recommended and has been successfully performed by that distinguished and candid surgeon, Dr. T. G. Thomas, of New York. It may prove to be a valuable substitute for the ordinary operation.

The pedicle has attracted much attention for years, and it has now become questionable whether or not too much credit has been given to its disposition in influencing the success of the operation. Almost equal success by the various modes induces us to think that the treatment of the pedicle has been overestimated, other things having equal bearing on the result.

Keith, of Edinburgh, whose successful career as an ovariotomist since 1863 has scarcely been surpassed, recently, in reply to a question as to what part of his treatment he mostly attributed his success, said: "I don't know; I wish I did." He relies more on minute attention to all the different stages of the treatment and operation than to any special part of the procedure. This is the candid statement of a great ovariotomist, and I doubt not its truth, for proper and attentive preparation and after-treatment have begun to be considered as much or more conducive to success than the operation itself. As I have stated, the different modes of treating the pedicle have yielded very near the same percentage of success; and the success of the leading ovariotomists, with all the modern improvements, is but little greater than that of McDowell, the father of ovariotomy; and so much attention having been given to the disposition of the pedicle, it appears, as Keith intimates, that the success of the operation would have been greater if more attention had been given to each and every particular in the management of the case.

Spencer Wells, now the most distinguished ovariotomist, is the most prominent advocate of the clamp, and, if possible, he always treats the pedicle externally.

Washington Atlee, of our own country, is somewhat partial to the actual cautery and écraseur. He stands next to Mr. Wells in notoriety, and justly so. It was through his courtesy that I first saw this operation performed in the spring of 1869 in Philadelphia.

Dr. Keith, of Edinburgh, the next most famous, is a much younger man, and bids fair to make a name in this operation equal to the most eminent. He treats the pedicle mostly but not exclusively with the clamp.

The method of Dr. Miner, of Buffalo, New York, in treating the pedicle by enucleation—that is, by carefully separating it with the fingers from the base of the tumor or cyst, requiring neither clamp nor ligature—is a great modern improvement. It seems to be gradually becoming more popular in America, and many regard it as the greatest addition to ovariotomy since the operation of McDowell in 1809.

We must confess, however, that the treatment by enucleation has not been sufficiently tested by experience to give it a decided position, though it is mentioned with much favor in the literature of the subject. The rectilinear écraseur invented by Dr. Nott, which I have mentioned, is reported to have given satisfaction in its application to the pedicle.

The treatment of the pedicle by torsion of the vessels is a recent improvement which is favorably regarded, and the success of torsion of the large arteries is entitled to high consideration. The plan was first suggested and practiced by Dr. Bebee, of Chicago. He had used it successfully six times when he made his report. As before mentioned, the advance in surgery has tended to simplify it, which is positive proof of progress.

Dr. J. Marion Sims has forcibly recommended puncturing the vagina with a trocar from above downward, and establishing drainage by means of india-rubber tubing after the plan of

Chassaignac. He states that for want of proper drainage many patients in this operation are lost from septicæmic poison. There is no doubt, as claimed by Dr. Sims, that the natural channel for drainage is through the Douglas *cul-de-sac*.

I lost a patient under ovarian operation last summer, and if Dr. Sims had been with me he could not have given a better history of it than his description of the course such cases pursue after this operation. In my report of this case in the last February number of the "Richmond and Louisville Medical Journal," I stated that "she died with all the symptoms of blood-poison just before the end of the fourth day," though I was aware that according to most authors death from blood-poison occurred at a later period. Dr. Sims holds that many patients die in that time or sooner from septicæmic poison, for the want of proper drainage. I am hopeful that his mode of drainage will materially lessen the mortality in this operation.

TRANSPLANTATION.

Transplantation of integument for the cure of chronic and stubborn ulcers is engaging some attention, and with favor, on the part of the Profession in this country and in Europe. The credit for the operation as it is now generally performed is due to M. Reverdin, Interne at La Charité. Professor F. H. Hamilton, of Bellevue College, has given this subject much attention, and no doubt entertained the idea of skin-transplantation as early as 1847. His experience has been principally in Bellevue Hospital, where opportunities for such practice are very extensive. Mr. Steele and Mr. Fields, of England, and a number of American surgeons, have spoken well of the result of skin-grafting in the treatment of ulcers.

TORSION.

Torsion for arresting and preventing hæmorrhage is considered a safe and valuable substitute for the ligature, not only for small but for the largest arteries. It is practiced both in England and France, and has been accepted as a proper procedure for the past few years. Dr. J. Marion Sims, of New York, re-

ports that he applied it to the arteries in hip-joint amputations at the battle of Sedan, with as much confidence as to those of the ankle or wrist, for McCormac, the operator; and at Guy Hospital, London, it is applied with the same impunity. Torsion is the almost universal rule there in amputations and resections. There has not been a ligature applied to an artery there for some years. I have never resorted to torsion of the large arteries, but the principle seems to be based upon sound reasoning. It destroys the internal and middle coats, and twists the external in a cord-like shape. Its action is very similar to that of the écraseur, and the success of that instrument is well established.

CONSTRICTION.

Crushing, or "constriction," as it is called by Dr. Spier, of New York, who first suggested it as a substitute for the ligature, has not yet been practiced enough to be pronounced upon. Some eminent surgeons, however, think well of it. The crushing is done with Dr. Spier's "artery constrictor," which is described in the recent works on surgery.

ANEURISMS.

The principal improvement in the treatment of aneurisms is by digital compression and flexion. Some European surgeons claim that Professor Vanzet, of Padua, first treated aneurisms successfully by digital compression. It is true, according to authenticated reports, that he first attempted this treatment; but, failing, resorted to the ligature. Dr. Jonathan Knight, of Yale College, first practiced it successfully. It has since been extensively used, and is generally well thought of.

The treatment of aneurisms by flexion was first recommended by Earnest A. Hart, surgeon of West London Hospital. It is only applicable in popliteal space and bend of the elbow. It generally requires longer time than digital compression, but it is not so painful to the patient or troublesome to the surgeon. There is no doubt that it has succeeded well in some cases.

Treatment of aneurisms by galvanic punctures has received

some attention; but the statistics are very conflicting in regard to it, and therefore time and experience will be required to place it in its true position.

HERNIA.

It is now well established in the treatment of strangulated hernia that too prolonged an effort at taxis is an error, and that the earlier resort to operative procedure would be proper. The dread of operating in these cases, which has heretofore prevented its being resorted to in due time, has doubtless sacrificed many lives. M. Demarquay reports a case of congenital inguinal strangulated hernia successfully reduced and relieved by aspiration. He states that he had never before relieved a case of hernia of this kind by an operation. Therefore, as he succeeded in relieving one case by using the aspirator, he recommends the trial of that instrument in such difficulties. It is highly probable that its adaptability to various operations, and its freedom from the production of bad effects, will ere long place it as one of the most valuable of recent improvements in surgery.

Kentucky is noted and justly recognized as the land of statesmen and warriors; and she has equal right to be called the land of distinguished surgeons.

Ovariotomy and lithotomy are acknowledged to be the two major operations in surgery. A humble and unpretending Kentucky doctor is conceded to be the father of ovariotomy; the operation which, as I have said, is engrossing so much attention in this country and all over scientific and classic Europe. I allude to the late Ephraim McDowell, of Danville, in this State. And the most successful surgeon in this capital operation was also an unassuming Kentuckian, J. Taylor Bradford—a coïncidence so remarkable that it almost seems as if intended by the God of nature, that Kentucky should take the lead in this operation, which forms the gravest and grandest part of our profession.

Lithotomy undoubtedly stands next to ovariotomy as a ma-

jor operation; and the records show a greater percentage of success in it by a Kentucky surgeon, even to this day, notwithstanding all the modern improvements. I speak of Dr. Benjamin F. Dudley, of Lexington. Sir Henry Thompson, with all his boasted improvements and modern advantages for performing lithotrity, has not equaled the success of this able and distinguished man.

It is a characteristic of civilized people throughout the world to cherish and protect the renown of their men of genius; and it is a noble act of gratitude. France is proud of her distinguished surgeons Dupuytren and Velpeau; England of her John Hunter, Percival Pott, and Sir Astley Cooper; Scotland of her Sir Charles Bell and the noble Simpson. But they all must bow in homage to the original genius, courage, and self-reliance of Kentucky's McDowell, to the strong practical mind of her Bradford, and to the matchless skill of her eccentric Dudley. These three grand surgical lights have passed away, and we owe it to their noble genius to protect their fame, and keep their merits properly before the surgical world.

Let our lot be cast in any part of the earth—in England, among the astute and common-sense British surgeons; in Germany, among her minutely scientific men; or with the bold and dashing French—and we can rely for passport on the courtesy due to Kentucky doctors, full of admiration for the transcendent genius of McDowell, Bradford, and Dudley. It is beyond dispute that Kentuckians have done more for what is termed major operative surgery than any other people; and this obligates us, as members of the Kentucky State Medical Society, to keep prominently before the medical world the fame of her eminent surgeons. But for the genius and bold self-reliance of McDowell, Spencer Wells, the most distinguished ovariotomist, with his five hundred operations, might to-day be comparatively unknown; Keith, the rising surgeon, who is astonishing the world with his successes, might have but little reputation; and Washington Atlee, who is rapidly reaching the front rank, and

making a most enviable fame, might be little known outside the Quaker City.

And since this is the case, let us, as the highest medical body in Kentucky, pledge ourselves to protect and perpetuate our brilliant surgical history; and, individually striving for the best and the right, let us press forward with renewed zeal in the march of science, emulating the work, while we outshine the fame of our illustrious predecessors,

> "Who departing left behind them
> Footprints on the sand of time,"

and whose names deservedly stand so preëminent.—*Transactions.*

ART. II.—PECULIARITIES OF THE OPERATIONS OF THE THREE GREAT OVARIOTOMISTS: Wells, of London, Atlee, of Philadelphia, and Thomas Keith, of Edinburgh. By. S. FITCH, M. D. Edin., Portland, Maine.

Having recently had opportunity of observing and assisting at the operations of the three great ovariotomists, Wells, of London, Atlee, of Philadelphia, and Thomas Keith, of Edinburgh, I will sketch some characteristics of their several methods.

They all employ anæsthetics: Atlee uses a mixture of ether and chloroform, two measures of the former to one of the latter. Wells prefers bichloride of methylene. Keith uses only sulphuric ether.

Atlee and Wells administer the anæsthetic after the patient is upon the operating table. Keith's patient is etherized on her bed, in an adjoining room, and then carried into the operating room.

Atlee places the patient on a narrow table, obliquely facing the window, the left side toward the window, so that the light falls upon the left and lower part of the abdomen; the hips rest upon the edge of the table, the feet placed upon a suitable support beyond it, commonly a chair without a back, and the head

and shoulders raised by pillows. He stands at the patient's right, with the principal instruments on the *window-ledge*, his chief assistant on the opposite side of the patient, with ligatures, sutures, and reserve instruments at hand.

Wells and Keith have the patient's full length upon the table, the thighs strapped to the top of the table by a broad girth, and loops passed around the wrists and fastened to this girth to insure immobility; the patient is then covered by a thin india-rubber sheet, with a hole in the centre to admit the abdominal protuberance, and the edge of this aperture, being coated with adhesive plaster, sticks to the skin and excludes all liquids from the patient's clothing. (They all cover the patient warmly, excepting the parts under operation, with blankets. Keith keeps a vessel of hot water near the feet.)

Wells has the patient's right side toward the light, on a table diagonally across the window, the head being withdrawn to a convenient distance from the window, so that as he stands on the patient's right side, the light falls obliquely past his right upon the parts under operation, the assistant and instruments being opposite him on the patient's left.

Keith has the table in front of, and parallel to, the window, the patient's left side next the window, while he stands on her right facing the light, the instruments on his left, and the assistant on the opposite side of the patient, but nearer her head, so as not to obstruct the light.

Wells and Keith have always only one assistant besides the one who administers the anæsthetic. Atlee generally has several.

All these operators make the incision at first only two or three inches long in the linea alba, midway between the umbilicus and pubes down to the sac, then pass in a finger to examine the surface of the tumor and separate parietal adhesions. (Atlee here earnestly enjoins care, in case of intimate anterior parietal adhesions, that the finger be inside the peritoneum, and not between the layers of the abdominal parietes, and gives this infallible test, that "if the finger can be freely moved to and fro past the umbilicus it must be within the abdomen.")

They then tap the cyst or cysts, and draw out the remainder of the tumor through the small incision when practicable; but if adhesions or the amount of solid constituents prevent this, then the incision is extended, and chiefly upward, so as not to endanger the inferior or vesical reflexion of the peritoneum.

Wells employs his well-known tubular trocar, with an attachment for seizing the sac. Keith's trocar is similar to Wells', but longer and without the grapple. After puncturing, he catches the sac with long-handled, mouse-tooth forceps, which are then held in the hand with the trocar to prevent the sac slipping off.

Atlee uses the common trocar and canula of large size, and as soon as the sac is sufficiently empied to admit of being caught, he holds it upon the canula with his fingers and thumb, as being less liable than instruments to tear the sac.

Sometimes the hand is inserted through an incision in the sac, to break down loculi and evacuate dense or gelatinous contents which will not flow out through the trocar.

As soon as the pedicle can be commanded, it is secured. Wells and Keith apply the clamp immediately. Atlee, when the long incision is required and adhesions are intricate, frequently first ties the pedicle, and, severing it close to the tumor, drops it back, with a long ligature attached, into the abdomen, so as to be unencumbered with the clamp until all remaining adhesions are separated and hæmorrhage controlled.

Adhesions are torn or broken rather than cut (and this process is sometimes facilitated by having one hand within the sac, especially where the sac is fragile).

In case of inseparable visceral adhesions, the adherent portion of cyst is cut out, and afterwards the inner or secreting layer is peeled off, leaving the peritoneal surface attached.

Where vessels require tying, Keith uses fine carbolized catgut, and cuts off both ends, and thinks these ligatures are always absorbed. Wells does the same with fine, unwaxed, *pure* silk, and considers it equally liable to absorption. Atlee ties with waxed silk, and leaves one end of the ligature long, bringing it

out with the pedicle, or, if high in the abdomen, at a point in the incision opposite the place of ligation; but he frequently controls parietal vessels and bleeding points by acupressure, using French toilet-pins, or long sewing-needles with sealing-wax heads, passing them in through the abdominal walls and out again in such a way as to compress the vessel between the needle and the abdominal parietes, and generally passes a figure-of-8 thread over the needle on the outside. If the omentum bleeds from numerous vessels and is much stripped up, he ties it en masse, or if bulky, he ties it in several fasciculi and cuts off the distal end of each close to the ligature; he afterwards brings out each portion and passes a pin through the lips of the incision, avoiding the peritoneum, and through the stump, then crosses a thread over it around the needle, as in hair-lip suture.

Finally, the adhesions separated, the tumor removed, hæmorrhage controlled, and the cavity of the abdomen cleansed with soft sponges, the clamp is applied, if this has not been previously done, and the pedicle placed without twisting in that part of the incision where it will lie most easily, generally in the lower angle, and the incision closed by deep sutures which *include* the peritoneum, three-quarters of an inch apart, and three-eighths of an inch from the edge, and superficial sutures one-eighth of an inch from the edge, wherever they are required to correct eversion or inversion.

Wells and Keith use long unwaxed silk sutures, each end armed with a triangular-pointed, straight needle, which they insert on the peritoneal surface one-quarter of an inch from the edge, and push out through the skin three-eighths of an inch from the edge. As the sutures are brought through, the needles are pulled off and the ends of the sutures held by the assistant. A long flat sponge is kept over the intestines beneath the incision till all the sutures are introduced, when it is withdrawn and the sutures tied, commencing with the lowest one.

Keith, in tying, lets the assistant catch the first twist of the knot with the points of long dressing-forceps, and hold it till he ties the second portion. Atlee uses fine iron wire sutures,

which he introduces very rapidly through both edges at once with a peculiar tubular needle. The sutures are drawn only moderately tight, so that subsequent tumescence may not cause strangulation of the parts included. The end of the pedicle is then swabbed with solution of perchloride of iron (Atlee and Keith), or rubbed over with crystals of the same (Wells).

All three operators use the clamp almost exclusively for securing the pedicle. Wells and Keith use a heavy lever clamp, which is closed by long, powerful handles; the closure is then fixed by a strong screw, and the handles detached. Wells has discarded his circular clamp on account of its liability to cut the pedicle. Keith occasionally ties the pedicle with strong carbolized catgut, and drops it in. His brother, George Keith, was the first to advocate bringing the pedicle out through the Douglas *cul-de-sac*, which Handyside afterwards practiced in 1845–6.

Atlee uses his beautiful light clamp, described in the "American Journal of the Medical Sciences" for April, 1871. He has given up the écraseur (which he was the first to use) for dividing the pedicle.

They all object to "dropping in" the pedicle, on account of the liability of the raw stump to adhere to some portion of the intestinal canal, causing acute curvature and obstruction of its calibre.

Keith and Wells place around the pedicle, beneath the clamp, soft muslin bags loosely filled with carbolized chalk and camphor, and the same over the end of the stump, and a strip of carbolized muslin over the incision; then apply five or six adhesive straps, three inches broad, overlapping each other from ilium to ilium, thus covering in and supporting the whole hypogastrium from the pubes to a little below the umbilicus, then cotton batting over the whole abdomen to fill up all inequalities, and a broad flannel bandage over all completes the operation, and the patient is carried to her bed.

In examining or dressing the pedicle, the adhesive straps covering the clamp are not disturbed at their terminal attach-

ments, but cut through at their middle and afterwards replaced.

The after-treatment is essentially *expectant* in the best sense of the term, not passively, but carefully, jealously, unremittingly expectant or *vigilant*. If no symptoms threaten, nothing is done to invite them.

The service of the nurse is to be quiet, cheerful, prompt, unofficious, her main object being to keep the patient comfortable, restful, and happy.

The catheter used gently, so as to avoid impinging and irritating the lining of the bladder, and as often as required. Pain controlled by anodynes by the mouth or by suppository, or by subcutaneous injection. When there is thirst or nausea or vomiting after the operation, Keith gives frequent sips of hot water, and Wells oftentimes finds the ice-bag to the epigastrium grateful and serviceable.

Flatus is relieved by the rectal tube, and sometimes by puncture with a fine trocar. If there is evidence of noxious intraperitoneal effusion, with fullness and fluctuation in the post-uterine vaginal *cul-de-sac*, the part is punctured.

Pregnancy is not considered an insuperable bar to the operation. I saw a patient of Keith's in perfect health, who had recently given birth to a healthy child at the full time, after ovariotomy during gestation, and I saw two patients of Wells', one of whom had just gotten up from a healthy parturition after ovariotomy six months previously, and another perfectly well in the ninth month of pregnancy after an ovariotomy six months before, or in her third month.

Speaking of the results, Wells told me of a patient from whom he had removed *both* ovaries, who informed him that in her conjugal relationship "before the operation she had been only *passive*, but since the operation was always *aggressive*."

Wells' ovariotomies last June numbered five hundred, with one hundred and twenty-eight deaths. From March, 1870, to April, 1871, he had a succession of thirty-two cases in private practice, *without one death*.

Atlee has done about three hundred, and has now published

an admirable work on the diagnosis and treatment of pelvic and abdominal tumors. It is a summary of his whole ovarian experience and practice, recording with curious fidelity failures as well as successes, and presenting a regular gradation of cases demonstrating the varied phenomena of ovarian diseases, and comprising full formulæ for their detection and discrimination; and these formulæ are so simple and so lucidly illustrated, that the merest novice may apply them with almost mechanical accuracy for determining the existence and character of intra-pelvic and abdominal enlargements. Many of the observations, especially those upon fibro-cystic disease and degeneration, and upon the nature and treatment of peritoneal cysts, are absolute discoveries, or at least entirely in advance of anything hitherto known on these subjects.

Keith is the youngest of the three; the number of his operations last July was one hundred and forty-six, with twenty-six deaths, his success being very remarkable.—*Monograph.*

NOTE.—In presenting this paper, entitled "Peculiarities in the Operations of the Three Great Ovariotomists," to the Medical Profession, a word of explanation may be necessary. Under the title of "Three Ovariotomists," it was prepared for the American Medical Association, and read before the Section on Obstetrics, by its author, at a large meeting held in Philadelphia in May, 1872. After having been fully discussed, it was unanimously ordered to be published in the Transactions. Instead of handing the paper over to the Committee of Publication, the Secretary of the Section, Dr. Dawson, took possession of it, carried it away to New York, and published it in the May number of the "American Journal of Obstetrics," of which he is the editor. Of course it never came into the hands of the proper committee, and the very fact of its having appeared in another journal constitutionally debarred it from the Transactions of the American Medical Association. The object of the author having thus been defeated, he endeavored to get it more extensively circulated by offering it to the editor of the "American Journal of the Medical Sciences." For the same reason it was excluded from that journal.

The only resource left to the author, in carrying out his idea of presenting this paper to the members of the American Medical Association, is to publish it in the present form and circulate it among them. He flatters himself that it contains some very important points contrasting the details of the operations of Wells, Atlee, and Keith, and notices many minutiæ which materially affect the ultimate issue of these grand operations, which should be recorded and known.

S. FITCH, M. D. Edin.

ART. III. — BLACK VOMIT OF YELLOW FEVER. By JOSEPH JONES, M. D., Professor of Chemistry and Clinical Medicine in the Medical Department of the University of Louisiana; Visiting Physician of Charity Hospital, New Orleans, La.

The following observations upon the black vomit of yellow fever are the results of labors commenced in 1856, and pursued in various portions of the Southern States up to the present time.

During the active stages of yellow fever profound changes take place in the organs and tissues, and especially in the kidneys, heart, and liver; and *oil* and *granular* albuminoid and fibrinoid matters transude through the capillaries and fill up the cells and excretory ducts, and arrest the functions of these organs.

The liver of yellow fever does not present the soft, friable condition characteristic of true fatty degeneration. The jaundice resulting from the suppression of the excretory function of the liver, or from the reäbsorption of the bile, would appear to be due to the same causes which induce the suppression of urine—viz., to the deposits of oil and granular albuminous or fibrinous matter in the excretory structures of the kidneys and liver.

The heart in yellow fever appears to be as fully permeated with oil as the liver; in the latter organ, however, a large amount of oil is enclosed within the liver-cells.

Yellow fever is not only attended with what may be called "acute fatty degeneration," but also with such profound alterations of the fibrinous element of the blood, as to permit the transudation of the altered fibrin and albumen into the excretory tubes.

The ejection of altered blood (black vomit) from the mucous membrane of the stomach, during the period of calm or depression, although not absolutely characteristic of yellow fever—as it may occur in other diseases—is still of such frequent occurrence in yellow fever as to demand the most careful consideration, both as to its nature and origin.

The character of the matters vomited, during the progress of yellow fever, varies in different stages of the disease, and with the character, relative mildness and severity, and the progress of the changes in the blood and organs.

Whilst yellow fever is characterized, in common with several other diseased states, by an irritation of the gastric mucous membrane, the peculiar nature of the vomited matters does not rest entirely upon the congestion and irritation of the mucous membrane of the stomach, but is influenced to a greater or less extent, by the changes of the blood, liver, kidneys, and nervous system.

The vomiting in yellow fever may also be regarded as, to a certain extent, salutary, and as an effort for the elimination of certain excrementitious materials from the blood. In some cases, the first effect of the black vomit may seem to be salutary; the tongue improves in appearance, the febrile heat abates, and if it were not for other profound changes in the blood, liver and kidneys, lying back, as it were, of this almost universally fatal symptom, beneficial results of the most important character might flow from the relief afforded by the removal of a certain amount of excrementitious matter from the blood, as urea and ammonia.

The first ejections of the stomach of a yellow-fever patient consist, most generally, of the ordinary secretions and contents of the stomach, then follow vomiting of a mucoid fluid, frequently, at first, tinged with bile, the reäction of which varies in different cases, being alkaline in some and acid in others.

After the first vomiting, the stomach may remain tolerably quiet until the subsidence of the fever, on the third or fourth day, when, without any premonitory symptoms of nausea, the stomach, on any trifling provocation, may eject a quantity of clear, pale, almost limpid, and slightly acid, opalescent fluid; at this period the disease may terminate, or make no further progress, as if this elimination was similar to the perspiration of intermittent fever, the whole ailment vanishing at this stage.

If the vomiting continues, and passes on to black vomit, it

becomes first streaked with dark flocculi of altered blood; the reäction, in many cases, changes from the acid to the alkaline; and careful chemical examinations have convinced me that this change in the reäction of the black vomit was due to the elimination, by the gastric mucous membrane, of urea, by its conversion into ammonia.

The acid reäction of the yellow-fever vomit is due, not to the presence of any peculiar acid, but to several; as the phosphoric (existing in the form of acid phosphates), lactic and hydrochloric acids. The degree of the acidity will also vary with the character of the fluids and solids taken into the stomach; thus, if much sugar be taken, the vomited matters will be much more strongly acid, and the presence of this substance will also determine, to a great extent, the presence and development of certain fungi, as the yeast-plant.

The rapid generation of torulæ, as well as the effervescence of the black vomit, is, in certain cases, referable chiefly to the presence of sugar in the aliment, and in the tea and coffee drunk.

The specific gravity of black vomit, as determined by weighing with the specific-gravity bottle, varies from near the standard of distilled water to that of blood.

It is now fully admitted that black vomit is not entirely confined to yellow fever, and that it is chiefly the secretion of the mucous membrane of the stomach, and the matters introduced from without, as food, mingled with the blood, which oozes into this viscus, from the mucous surface of the stomach, denuded of epithelium and intensely congested.

But, in most cases, black vomit is something more. It is, to a certain extent, an excrementitious product, containing urea and carbonate of ammonia.

The kidneys are more or less affected in every case of yellow fever. When these organs act continuously and freely, the blood is purified of bile and urea, and black vomit more rarely occurs than in those cases in which their functions are arrested,

and the mucous membrane of the stomach assumes the excretory function.

Black vomit is due to several causes:

1st. To the direct irritation and structural alteration of the gastric mucous membrane, by the poison of yellow fever. This poison, most probably, is received into the blood and acts in this manner, or through this medium, upon the gastric mucous membrane, for we find contemporaneous changes taking place in the heart, liver and kidneys; and these changes would most probably *succeed* to the gastric irritation, if the poison was received in food or drink, primarily, by the stomach.

2d. To the structural alterations of the blood, and especially to the marked diminution of the fibrinous element, which, as I have shown by chemical analysis of the blood of yellow fever, sinks to a lower figure than in any other known disease. It is well known that the diminution of the fibrine of the blood, below a certain standard of health, so deranges the capillary circulation, as to lead to congestion, alteration of nutrition, and secretion and passive hæmorrhages. The hæmorrhages and effusions of scurvy can only be referred with reason to the changes of the blood, and especially to the diminution of fibrine.

3d. To suppression of the action of the kidneys and the retention in the blood of urea and other excrementitious products, and the elimination of urea and carbonate of ammonia, and ammonia, by the gastro-intestinal mucous membrane.

4th. To the direct irritant action of the ammonia, and excrementitious materials, eliminated vicariously, upon the mucous membrane of the stomach and intestines.

Bernard and Frerichs long since explained by experiments what we observe in these cases of yellow fever, attended with urinary suppression.

Thus the former experimenter found that a dog, which had a fistulous opening in the stomach, passed daily with his urine about ninety-three grains of urea and uric acid, and yet during the succeeding twenty-four hours, after the removal of the kidneys, the blood drawn from the animal exhibited only a mere

trace of these constituents, but urea in abundance was detected in the gastric juice, withdrawn through the fistula; and after remaining for some time in the stomach and intestine, the urea changed into ammoniacal salts; and the gastric juice was secreted continuously, and not, as in the normal condition, only after a meal.

Not only was the manner of formation and chemical constitution of the secretion of gastric juice altered by this vicarious excretion of the main constituents of the urine, but the mucous membrane was structurally altered and became disqualified, not only for the performance of this elimination, but also for the elaboration of its normal secretion.

In yellow fever the suppression of the action of the kidneys follows immediately after, or may even commence in the midst of a devastating fever, attended with rapid alteration and chemical change of the elements of the blood, and the formation of large amounts of urea and other excrementitious matters, and the work suddenly thrown upon the already weakened and altered stomach is far greater than when the kidneys cease their action suddenly from mechanical injuries, or from sudden congestion, caused by cold, in health.

Bidder and Schmidt have shown that the digestive powers of the gastric juice are weakened, if it be mixed with any considerable quantity of saliva, in consequence, as they suppose, of the neutralization of the free acid by the alkali of the saliva; and they also found that the addition of bile to the normal gastric juice entirely suspended its digestive property, although the mixture still exhibited an acid reäction.

Bernard, Bidder and Schmidt found that the gastric juice, secreted with urea, sooner or later not only became alkaline, but also lost its power of converting albumen and albuminous matters into assimilable forms; and Lehmann also found that the digestive power of the gastric juice was much impaired by the addition of alkaline salts, or by saturating the fluid with peptones or other organic substances, either nitrogenous or non-nitrogenous.

In yellow fever, when there is an impairment or suppression of the function of the kidneys, we not only have a combination of these various causes, producing derangement of the gastric juice, but we also have the destruction of the fibrine of the blood, inducing passive hæmorrhages from the congested and altered gastric mucous membranes, and at the same time such an elevation of temperature as is most favorable to the rapid decomposition of the contents of the enfeebled stomach and intestines.

5th. To the irritant and nauseating effects of the bile retained in the blood.

The bile retained in the blood without doubt produces its characteristic effects upon the nerves supplying the stomach, inducing nausea and vomiting.

6th. To the degeneration of the excretory and secretory cells of the gastro-intestinal mucous membrane, attended with or characterized by the deposit of granular, fibrinous or albuminous matter, and oil-globules in the secretory cells, and in the walls of the smaller blood-vessels and capillaries.

7th. To the capillary congestion of the gastro-intestinal mucous membrane, similar in all respects to the intense capillary congestion which characterizes all the organs and tissues in this fever.

The chief causes of black vomit therefore are: The direct irritation of the gastric mucous membrane; intense capillary congestion, in consequence of the morbific action of the poison of yellow fever and its products upon the vaso-motor system of nerves; suppression of the functions of the liver and kidneys, and the retention in the blood of bile and urea, and the elimination of urea from the gastric mucous membrane, as such, in the state of ammonia and carbonate of ammonia; and the direct irritant and solvent effects of ammonia and carbonate of ammonia upon the gastro-intestinal mucous membrane, and the effects of the urea, ammonia, and other constituents of the metamorphosis of the tissues upon the blood; the alterations of

this fluid by the changes excited by the yellow-fever poison, and the destruction and alteration of the fibrinous elements.

When careful sections of the kidneys were made with Valentin's knife, and examined under the microscope, the Malpighian corpuscles and tubuli uriniferi were filled with oil globules and granular nitrogenized matter, which appeared to be the result of the changes and modifications of the albumen and fibrine of the blood.

The excretory cells of the kidneys also contained oil-globules and granular matter.

The poison of yellow fever appears to act in an analogous manner to the agents producing small-pox, or the poison of certain reptiles, which alter the constitution of the blood, and lead to the formation of altered albuminous and fibrinous products from the blood, and which, in the case of yellow fever, transude into the hepatic ducts and urinary tubes, and thus cause suppression of the urinary and biliary secretions.

When in any case of yellow fever the function of the kidneys is arrested, a fatal result necessarily ensues, not only from the retention of the urinary constituents, but also from the retention of the bile.

As long as the kidneys perform their normal function, the retained bile will be continuously eliminated; but as soon as these organs cease to act, the bile, as well as the urinary excretion, is retained in the blood, and certain nervous disturbances are induced, as dullness of the intellect, uræmic convulsions, and, in some cases, violent agitation of the muscles, resembling tetanic spasms.

Black vomit, therefore, is an *effect* or *result* of preceding actions or changes, and is not a *cause;* it is an error, therefore, to search, either by chemical means or by the microscope, for the *cause* of the disease in one of its *products.*

Black vomit, from its great amount in some cases, may be possibly a cause of death; but it is in all cases only secondary

to the preceding changes in the liver, kidneys and blood, and in some cases at least in which it is the result of an effort on the part of the organism to eliminate certain materials from the blood, it may, to a certain extent, be even salutary.—*Archiv. Scien. Med.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

ART. I.—REMARKS ON THE NEW VIEWS REGARDING PULMONARY PHTHISIS. By W. JACKSON CUMMINS, M. D., Physician to the Cork South Infirmary and County Hospital, etc., etc. [Read January 8, 1873.]

Mr. President: The accumulated experience of every physician in this country overflows with facts bearing on the etiology, pathology, and therapeutics of pulmonary consumption; the disease which of all others most arrests our attention, and draws forth our sympathies. It is, therefore, before societies of clinical physicians, on whom devolves the heavy responsibility of applying practically the opinions and theories of the day, that all new views ought to be pleaded, and by the verdict of which they must stand or fall. It is only histologists, minute anatomists, and experimentalists, who can decide disputed points between the eminent men who devote their time and talents to those difficult studies which have shed such lustre on our Profession, and thrown such a clear light upon the medical science of our day; but, as the results of such investigations, if worth anything practically, must be confirmed by clinical observation, every practitioner can draw his own inference regarding "new views," and is more likely to be unbiased in the opinion he forms, than those accomplished men who view clinical facts through their own experimental investigations. Hence the importance of not letting another session pass without an appeal

to this Society for its opinion regarding the great medical question of the day. You are all doubtless aware that the old doctrines of Broussais and his followers, and the opinions held generally by the Profession and the public, more than a generation ago—that phthisis proceeds from a "neglected cold"—was completely superseded by the teaching of Lænnec and his disciples, that every form of the disease is preceded by a specific neoplasm of which the lung affection is only a local manifestation; and that this theory was almost universally accepted until Virchow and his followers, within the last few years revived the old doctrine in a new form, and "translated," as Dr. Walsh expresses it, "the doctrines of Broussais and Addison into microscopical language." I suppose there are few clinical physicians who have not observed numerous cases of phthisis which suggested doubts as to the universal applicability of the narrow views of Lænnec, and yet so implicit was the faith in the dicta of that admittedly great pathologist, that one* only had the courage to raise a dissentient voice. The writings of the modern school have fallen like a thunderbolt on this blind faith in the great discoverer of the stethoscope; and few, if any, works on medicine of any day, have arrested more attention, or obtained more rapid circulation, than Niemeyer's classic work on consumption. Such a desire for new views is some evidence that grave doubts existed regarding the old; and when it may be added that in spite of some adverse criticism, the doctrines enunciated by Niemeyer have effected almost as great a revolution in medical opinion regarding phthisis, as the works of Todd and his confréres did in the treatment of acute diseases, a few years ago, it must be admitted that they have some practical value. The tide of medical opinion has already set in favor of the "new views," and even now there is danger of too great a reäction against the old; we want reform, and not revolution; we have seen too much of the latter since the days of Todd. I wish it had fallen to the lot of some one with more time and ability at

* Dr. Addison.

his diposal to bring this question before you; but it is better that even an imperfect essay, such as this, should be discussed, than none at all.

It is not denied by modern pathologists that a small proportion of phthisical patients are primarily tubercular, but such cases are regarded as so small a minority, as not to be taken into account in dealing with the question of phthisical pathology; and, moreover, it seems to me that the few cases, admittedly tubercular, are not described as presenting the symptoms and physical signs of ordinary phthisis, at least until after they have undergone a metamorphosis into the caseous degeneration which causes pulmonary ulceration—a metamorphosis which they may or may not undergo, and without which they may destroy life. The granular miliary tubercles, which are the distinguishing feature of this class of cases, may be the offspring or parent of the cheesy degeneration which precedes phthisical excavation; when the former, it is said that they are the result of blood changes due to an internal inoculation from caseous masses, or from ulcerous cavities; and when the latter, they themselves undergo the cheesy degeneration in the same way that it is said hæmorrhagic infarctions, inflammatory exudations, and even cancerous nodules become transformed, before they cause destruction of the lung substance. But it is said that the vast majority of phthisical cases met with are not primarily tubercular, that the worst thing which can happen to them is that they should become so, and that numbers of persons die of phthisis without ever having had a tubercle in their lungs or in any other organ. The pulmonary phthisis or excavation in these cases is described as the result of various local diseases and inflammations,* diverse in their etiology and pathology, but having a tendency *common to them all*, though in varying degrees, to caseous degeneration.

Having arrived at this cheesy condition, the heterogeneous products become homogeneous, and losing all the characters which had previously distinguished them, undergo further trans-

* Niemeyer, p. 207.

formation of a retrograde or progressive character; when the former, "the caseous masses become still more inspissated, and the shrunken atrophied cells break down into a detritus,"* "little by little their organic matter disappears, while calcareous salts are deposited, until there finally is left a chalky or mortar-like concretion." In other cases the arrested fatty metamorphosis of the cells is reëstablished, they become liquefied and capable of reäbsorption. The absorption takes place "through supplementary fatty degeneration and liquefaction, and may be so complete, that upon dissection nothing is found but pulmonary tissue in a state of induration from interstitial pneumonia."

But when caseous degeneration undergoes progressive transformation, liquefaction takes place speedily, and, "together with the tissue, breaks down into a creamy puruloid matter." This is possibly brought about through the crowding together of the accumulated cells in the air vesicles, partly shed there, and partly inhaled from the bronchi, "encroaching on one another," exerting a pressure upon surrounding tissues and their vessels, "and thus producing anæmia and necrosis of the pulmonary tissue" (pp. 217, 218). But although it is held that a great variety of local lung diseases may thus produce caseous degeneration and phthisis, by far the greater number of cases are due to chronic catarrhal pneumonia, and chronic bronchial catarrh; where, "owing to the slowness and tedious nature of the progress, the tendency of which is to a perpetual accumulation of young cells in the air vesicles, the cells are more and more crowded together and become mutually injurious and more liable to degeneration." Another process by which a great variety of local lung affections, including all forms of pneumonia, collapse of lung, tubercle, cancer, hæmorrhagic infarctions, abscess, chronic bronchitis, etc., may give rise to phthisis, is by their causing or becoming associated with chronic

* The quotation marks here, and elsewhere, except when the author's name is mentioned in the margins, refer to "Niemeyer's Text-book of Practical Medicine."

interstitial pneumonia which is described as "a hyperplasia of connective tissue, resulting in augmentation of the substance of the lung, and diminution of its cavities for the reception of air." At first, "soft and filled with blood," the tissue afterwards contracts and is transformed into a "callous, bloodless substance," which draws in the thoracic wall and dilates the bronchi. When these latter become sacculated and are situated in the lower lobe of the lung, "not being compressed even in coughing," their secretion accumulates and decomposes, corrodes their walls, producing "slough, inflammations, or diffused putrescence of lung, and hæmorrhage."

This form of inflammation rarely exists as a primary disease, but it accompanies most cases of consumption, and causes many of its physical signs. The experiments of Villeman, Lebert, Cohnheim Fränket, and Sanderson, have established the fact that tubercle may be inoculated, and the further important point that inoculation with the products of ordinary inflammation and other organic matters, or even with inorganic matters capable of exciting inflammation, may infect the blood so as to give rise to a general outpouring of grey granulations in the lungs and other organs. It seems, however, to be pretty generally admitted now that there is no such thing as a tubercle cell, nor any specific histological element characteristic of a tubercular diathesis. Virchow (quoted from Walsh) says, "that cells present in tubercle may be relics of epithelial cells, or of some other natural product, or they may be related to or identical with exudation cells, or pus globules, or to and with the cells occurring in cancerous growths or in typhoid infiltrations." While Sanderson says that "there is no difference structurally between the induration of phthisis and of chronic pneumonia." . . . . "No anatomical elements in the hard parts of a phthisical lung which are not found in the hard parts of chronically irritated tissues in any other organ, and no elements in the induration of phthisis which are not to be found in chronic bronchitis." Nay, more, it is even possible that there are no anatomical elements in the induration of phthisis which are not

to be found in healthy lung. This author considers tubercle in serous membranes a hypertrophy of gland-like or adenoid structures, and in the lungs a new substance identical with it, produced in the inter-alveolar spaces, giving rise to a sort of lobular pneumonia, which becomes cheesy. We can not wonder that pathologists who have obtained from minute investigation such a mass of evidence in favor of the non-specific nature of phthisis should deny it a place among the diathetic diseases, and endeavor to supply a new explanation of the statistical evidence which places the disease high on the list of hereditary transmissible affections. Those pathologists who argue that phthisis is primarily a local disease, admit a predisposition hereditary or acquired, but deny to such predisposition any specific character. They say that all causes which "lower the nutrition and vital resisting power of the system," which "retard or disturb the normal development and conservation of the organism," which produce "feeble power of resisting noxious agents," a "weakness and vulnerability of constitution," are predisposers of those low forms of inflammation which result in the proliferation and crowding together of "young, indeterminate, decrepid, and perishable cells, incapable of making healthy tissue," or of repairing perfectly even the more sthenic kinds of inflammation, and that products of local disease, not removed in consequence of this imperfect repairing power of the tissues and organs, undergo caseous degeneration, and result in phthisis.

These ingenious theories are undoubtedly true in many instances, and it may well be added that a feeble power of resisting disease is not incompatible with a high degree of physical development; rather, indeed, the contrary, as there is sometimes a greater disproportion between the organs of nutrition and the amount of tissue to be nourished in the robust than in the delicate; but while we are ready to admit the theory, and even accept the explanation, we can not go so far as to believe that they disprove a SPECIFIC blood tendency or diathesis, antecedent to the local changes which cause phthisis. Even assuming that a tendency to the proliferation of cells and to caseous degenera-

tion is the predisposition, it is as surely deserving the name of a diathesis as is the tendency to the formation of lithic acid in gout. But although I believe that as far as predisposing causes are concerned, the ground is merely shifted between the supporters and opponents of the "new views," it is not so when we come to consider the local disease itself, which one party maintains to be a non-inflammatory deposit from the blood, and the other a transformed exudation, and here, in my opinion, clinical experience tends altogether in favor of the "new views," for, if we take as an illustration six brothers who have inherited what is called a tubercular diathesis, and carried it to adult age in a latent form, with nothing apparent to distinguish them from their healthiest neighbors; three of them may carry their immunity from phthisis to a good old age, and the other three may catch cold, suffer from chronic catarrhal pneumonia or bronchitis, become phthisical, and die. I believe that the vast majority of phthisical patients can furnish some such history of catarrh or other local cause capable of lighting up the predisposition or diathesis, by whichever name you call it, which they have inherited or acquired, and that, apart from such local exciting cause, the predisposition may be as harmless as a mine of gunpowder without the spark of fire. I can not help thinking besides that there is a something more specific in the majority of cases of phthisis than a mere tendency to catarrhal inflammation of a low type, a something hitherto undescribed, which has an affinity for the apices of the lungs; a something which renders inoculation with phthisical matter far more likely to produce tuberculosis than with any other organic or inorganic substance; a something which is infectious, and may be communicated by close and continuous contact from the sick to the healthy, and which makes us dread the most trifling depressing influence for some of the families we attend, and fearless about others even when more exposed, and I am sure we could all furnish family histories, with intermarriages, etc., to justify the sort of instinct with which we cling to the old theory of a diathesis.

There is no part of Niemeyer's book which seems to me more borne out by clinical observation than his views regarding interstitial pneumonia, to which I have already alluded. They explain many of the symptoms and physical signs met with in bronchitis and old catarrhs, as well as in phthisis, and scarcely a day passes without my seeing cases which tend to confirm them. The explanation, too, which he and other modern observers suggest as to the cure of the enlargement of the superficial veins which are so frequently seen ramifying over the thorax in phthisis, and the close connection through the intervention of organized pleural adhesions between the deep and superficial circulations, are peculiarly interesting, while the latter explains the great therapeutic value of inunction of the skin of the thorax with cod-liver oil and other nutritve agents. If it be a fact that fatty degeneration of the products of inflammation must precede their absorption and excretion, and that failing a metamorphosis of that kind, caseous degeneration, and destruction of the lung will occur, the importance of a direct blood communication between the skin and the lungs can not be overlooked, nor the advantage of supplying those organs with fats and oils through such ready channels. I have endeavored in this brief essay to condense as far as possible a few of the principal "new views" enunciated by modern authors, and especially by Niemeyer, whose clear and lucid explanations have formed the base of the points I have touched on. I have not followed him and others into the detailed descriptions of the mode in which the inhalation of irritating particles of iron, coal, dust, etc., etc., produce phthisis, as these matters cause excavation of the lung, through the intervention of inflammation, followed or not by caseous degeneration, subjects which have been before us in a general way, and which I have not space to enter into more fully, but there is one more subject which can not be passed over without at least a brief consideration—viz., pulmonary hæmorrhage. It is the arteries, veins, and capillaries of the pulmonary artery which make the lungs the most vascular organs in the body, and it is from one or

other of these sources that we would expect bleeding to take place in phthisical hæmoptyses. Such, however, is not the case, for the blood of the pulmonary artery is the blackest in the body, and expectorated blood is of a bright arterial tint, except in those rare cases where aneurisms of the pulmonary artery, or want of support of some large artery lying on the wall of a cavity, cause rupture and hæmorrhage of black blood. But in the large proportion of cases it is held by modern pathologists that the branches of the pulmonary artery and the capillaries and veins are gradually obliterated as phthisical disease progresses, and that it is from the bronchial (nutritive) arteries that even profuse hæmoptysis occurs, in the same way that blood pours from the mucous membrane of the nose in epistaxis. In some cases bronchial hæmorrhage is caused by weakness of the walls of the blood vessels, and if slight in amount and fully expectorated may do no harm, or if hyperæmia be present, may even do good, and be a relief; but in many cases a portion of the blood is drawn during inspiration into the alveoli, and may lodge there, undergoing caseous degeneration, with softening and excavation, giving rise to surrounding inflammation and irritative fever. Clinical experience certainly tends to confirm the old opinion set aside by Lænnec's teaching, and thus recently revived, of "phthisis ab hæmoptoë" in a certain number of instances, but I believe that in the vast majority of cases catarrhal inflammation precedes hæmoptysis, as it so frequently does epistaxis, and that it is due rather to the intensity of the inflammation of the mucous membrane, or to a poverty of the blood itself, than to weakness of the vascular walls; however occasioned it may give rise to inflammation if retained, which clinical observation leads us to believe it rarely is, unless the hæmorrhage is so profuse as to cause weakness or faintness and temporary paralysis of the power to expectorate. I have seen hundreds of instances of slight phthisical hæmoptysis in patients who walk daily to the hospital, and are nothing the worse for it. In the immense majority of cases my experience leads me to believe that bronchial hæmorrhage

does no harm unless it continues for days in a profuse form, and then it lights up one of the most dangerous forms of inflammation with high irritative fever, followed by diffuse inflammation or granular infiltration, followed sometimes by rapid excavation or the lung and all the symptoms of acute phthisis. Patients who have suffered from this form of hæmorrhage rarely live long, and in all cases the prognosis is bad. I may just mention incidentally that I can only remember two or three cases in my own practice where phthisical hæmoptysis caused sudden death by obstruction of respiration and asphyxia.

I will now conclude, Mr. President, by stating my opinion that the "new views" regarding pulmonary phthisis are a great boon to practical physicians. They have imparted a special interest and study to every individual case of the disease, and withdrawn a large number from the hopeless group of the doomed to die, besides giving us two grand principles to guide our treatment—viz.: First, to prevent and subdue local inflammations, and second, to build up the nutrition of the system, to increase its power of resistance, and enable it to form healthy cells and good sound tissues.—*Dublin Journal.*

ART. II.—HYPERTROPHY OF FŒTAL KIDNEYS, CAUSING DIFFICULT LABOR IN BREECH PRESENTATION. By W. JACKSON CUMMINS, M. D., Physician to the Cork Maternity, etc. [Read before the Society January 28, 1873.]

Mr. President,—The specimen which I lay before the Society was taken from a fœtus immediately after birth, and is interesting, not only as a pathological curiosity, but because such excessive overgrowth of the kidneys, presenting a formidable obstacle to the expulsion of a breech presentation, is, to say the least, most unusual.

The case, as reported by Mr. Gun, the student in charge, is as follows:

"Mrs. ——, a maternity patient, who had previously suffered from two difficult labors, was taken with her third labor on the evening of the 22d of last December, and as little progress had been made on the afternoon of the following day, Dr. Cummins, the physician of the week, was sent for and diagnosed a breech presentation entering the brim of the pelvis in the right oblique position, the anus of a female child being felt posteriorly, and the vulva anteriorly. The os uteri was almost quite dilated, and the pains recurred at intervals of about five minutes, short but severe. As the patient was strong, and patience alone seemed necessary, Mr. Gun, the student on duty, was left in charge."

"Dr. Cummins returned at 7:30 o'clock with Dr. Leech, the resident physician, and finding that little or no progress had been made, gave one or two doses of ergot, which increased the pain, without advancing the presentation to any great extent; he therefore passed a blunt hook over the thigh of the fœtus, and made traction during the pains. Very little progress was made, as the fear of fracturing the femur forbade the use of sufficient force to overcome the obstacle which it was now plain existed. Dr. C. then got the two first fingers of his left hand over the same thigh, and removed the hook. Powerful traction was now made, and as the presenting part came more within reach he passed the two first fingers of his other hand round the other side of the thigh, and increased his efforts. As soon as the breech had passed the vulva the cause of the delay became apparent, as the abdomen was found to be enormously increased in size, and so firm as to be incompressible. It was extracted with great difficulty. The face then turned into the hollow of the sacrum, and the head was easily delivered. The child was dead."

"There was delay in the third stage, and considerable hæmorrhage, so that Dr. C. had to remove an adherent placenta from the uterus. The mother recovered perfectly."

On opening the abdomen of the fœtus I found these kidneys, which are about the size of ordinary adult kidneys, and which

were much larger before they were macerated in an antiseptic fluid and cut into. The diminution in size has probably been caused by the escape of infiltrated fluid. It is not easy now to judge of the structure, but it seems to have been a simple overgrowth of renal tissue with increased thickening of the capsule, and some fluid infiltration.

I have examined all the authors I know to try and find out a case parallel to this without success, and my friend and colleague, Dr. Jones, has kindly looked through the College library with the same object. He is not here this evening, as he had to go out of town, but I shall read you a few extracts from a note I have just received from him. He says: "I have looked up a number of continental authorities, and no notice has been made by any observers that I am aware of, of the dymetrical excess of formation exemplified in your specimen. Rokitansky says: 'Excess of development occurs *very rarely*, except in the case of biventral monsters, where it is generally a *third* kidney.'" I regret much that these kidneys were not weighed at the time of delivery, but the students were out of town in consequence of the Christmas holidays, and I had not time to see about the specimen myself; but even this imperfect sketch is not devoid of interest.—*Dublin Journal.*

Tatooing the Cornea. By *Henry W. Williams. M. D.*— The removal of conspicuous blemishes of the cornea by a safe and nearly painless process of tatooing deserves to be regarded as one of the most valuable recent improvements in ophthalmic surgery.

Although known to the ancients from the time of Galen, it had quite fallen into oblivion; and though not having the importance of those capital operations which preserve or restore the sight, it yet confers a great benefit upon patients by ridding them of what is often a marked or even a repulsive deformity.

The central part of the leucoma may be tinted with india-ink, to represent the pupil, and the marginal portions of the opacity with brown, blue, or other water-colors, to correspond

with the tint of the iris in the other, healthy eye. The ink should be rubbed up with water to the consistence of a thick paste, and may then be preserved for use, in a fluid condition, by adding glycerine.

The process of pricking in should be begun at the lower part of the space it is intended to cover. Wecker uses a spring elevator, to keep the lids separated; but this is more complained of than the operation itself, and is not necessary. It is sufficient to press the lids open with the thumb and finger, which may be covered, as suggested by Warlomont, with a bit of rag, to prevent slipping and to absorb the tears. A cataract needle, an instrument composed of several very fine sewing needles bound together and inserted into a handle, or any delicate-pointed instrument, may serve for the tatooing. A little of the thick pigment being taken up on the needle and placed upon the cornea, a large number of punctures are rapidly made, through the epithelial layer only, over the surface it is proposed to color, and the pigment is then gently rubbed into the punctures with the end of the finger.

Usually there is not much sensitiveness in the parts, and it is sometimes possible to accomplish nearly as much tinting as is needed, over a considerable space, at a single sitting. In other more sensitive subjects this can not be done, and the tatooing must be repeated, perhaps three or four times, to obtain the desired result. Generally, so much can be gained at a single performance that a patient appreciates the resulting benefit and willingly consents to a repetition of the tatooing.

If possible, the use of forceps to hold the eyeball should be dispensed with. If used, the conjunctiva should be taken hold of above the cornea, so that, in case the coloring matter should reach the punctures made by the forceps, the stain which would result may be so placed as to be concealed by being covered by the upper lid.

The operation should not be performed in cases where we find only a recent opacity of the cornea, as in many of these instances we may expect a gradual absorption of the cloudiness,

especially if the patient is young. Of course it is needless to resort to this means, intended mainly for cosmetic effect, where both eyes are sightless, unless in exceptionally great deformity. But, where one eye is perfect, the removal of a blemish from the other is often a great boon to sensitive individuals, especially to ladies.

Scarcely any precautions are needed after this little operation, and it may safely be repeated in a few days, sometimes in a day or two if desirable. It may be undertaken by any physician having a delicate touch, even if quite inexperienced in eye operations. It should not be done, however, while any lingering irritation of the internal parts of the eye is present. It is especially adapted to the cases of dense opacity, either partial or affecting the whole extent of the cornea. It may also be resorted to with advantage in some special conditions, where the cornea is transparent, but where it is desirable virtually to limit the area of the pupil by excluding some of the pencils of the rays of light; as, for instance, in some cases where iridectomy has been done, or in conical cornea."—*Boston Med. and Surg. Journal.*

The Controversy on Septicæmia.—After a long interruption, the French Academy of Medicine has again had the subject of septicæmia brought under its notice by Professor Vulpian, who has communicated the results of the numerous experiments he has undertaken in his laboratory, and which he thus summarizes: 1. When rabbits or guinea-pigs are inoculated with the blood of a human being who has died of gangrene of the lung, and consequent septicæmia, they soon die, and their blood can prove, when injected into other animals, just as rapidly fatal. 2. To produce fatal results with blood which has been allowed to putrefy spontaneously and by exposure to the air, it is necessary to inject a considerable quantity, as much, in fact, as a cubic centimetre. The blood of the animal thus poisoned, however, acquires very virulent properties, and a much smaller quantity proves effective. 3.—In cer-

tain cases the animals die at the expiration of several weeks, and the lesions consequent on purulent infection could then be demonstrated. 4. Blood taken from those affected with typhus fever never produced septicæmia in rabbits or guinea-pigs. 5. Well-marked differences in the characters of bacteria and vibrios are demonstrable in different instances, and Vulpian thinks these differences may possess an important influence on the activity of infection. 6. Vulpian regards true pathological septicæmia as distinct from that produced by experiment, and suggests the name bacteræmia for the latter.—*Lancet.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—THE ENDOSCOPE AND ITS APPLICATIONS IN THE DIAGNOSIS AND TREATMENT OF URETHRAL AND VESICAL AFFECTIONS. By A. J. DESORMEAUX, M. D. Translated by RHETT GOODE, M. D., Mobile, Ala. Blennorrhœa—Granular Urethritis. Chronic Urethral Discharges: Blennorrhœa. It is Confounded with other Discharges. Symptoms of Blennorrhœa—Signs furnished by the Bougie à Boule. Results of the Endoscopic Examinations. Granulations. Granular Urethritis. Differential Diagnosis. Herpetic Ulcerations; Comparison of the Ulcerations of the Urethra and of the Uterus. Ulcerations in Patches. Repeated Blennorrhagias. The Granular Urethritis does not recur once Cured. It is increased by Sexual Intercourse. Duration of Granular Urethritis. Fungous Ulceration. There is a Period when the Constriction does not Disappear at the same time as the Granulations; Transitory Period. Formation of the Fibrous Constriction. Granular Urethritis of Forty-seven Years.

Gentlemen,—We have studied in our last lecture the lesions produced by Blennorrhagia from its commencement to the moment that it loses its character of acuteness. We shall now consider the chronic discharges of the urethra, and in the same manner as we have reserved the term blennorrhagia for the

contagious affection for which it has been created, so we shall only call blennorrhœa the chronic flow which comes from the same cause, and shall endeavor especially to make a distinction between them and the herpetic discharges which are the most frequently confounded with them, and which, on account of their slight gravity, should occupy us only secondarily. Now, the discharges of a blennorrhagic nature, although often so small that we do not notice them, are the cause of nearly all strictures by the manner of the production of a mechanism of which we can complete the study by means of the endoscope. If writers have not insisted more on this point, and if some have not even seen it, it is not solely because blennorrhœa often only presents symptoms too slight to attract attention; it is because discharges of another nature, herpetic in particular, were confounded with it, and not having the same consequences, darkened the question and prevented the concatenation from being seized; and we must own that it was very difficult to avoid this confusion, for outside of the endoscopic examination, the symptomatic differences are almost null, and could not serve surely to establish a diagnosis; so that there is scarcely anything but the course of the disease and the concomitant accidents that could have permitted any surmise on its nature. We have left blennorrhagia at the moment when confined in the deep parts of the urethra; it seats itself in the bulbous, membranous and prostatic regions, at the same time it loses its acute character. Accordingly, as it persists in one or the other of these regions, its consequences are very different; we shall, therefore, study, for the present, the disease in the bulb and the membranous region, and shall reserve, until later, that which is special to the prostate. The symptoms of blennorrhagia, already much less marked, are more and more effaced to the extent of frequently becoming scarcely perceptible. The pain ends by being nothing more than a disagreeable sensation, which patients most often compare to an inconvenient heat, to a fatiguing tickling in the depth of the perineum, at the points corresponding with the bulbo-membranous portion. This sensation is seldom continu-

ous; most frequently it is only experienced at the moment that the urine is to be discharged, and persists for some time afterwards. Not unfrequently it is only perceived before and after the passage of urine, and not during micturition. Some patients do not feel it at all; but, for the most part, when they say they do not experience it, it is solely from a want of attention, and once having been apprised of it, they perceive it like the rest. The flow follows in its diminution the same course as the pain; in some lymphatic patients with soft fibres, it forms a few drops of a turbid, whitish, opaline liquid, which can leave spontaneously the meatus and seldom ever soil the linen; but most frequently the pus is in such small quantity in the habitual state and outside of all exacerbation, that it is completely swept away by the urine. Then sometimes you can distinguish it under the form of filaments driven out by the commencement of the stream and floating in the *vessel*. If we wish to assure ourselves of the existence of this flow, we should look for it when the patient has not urinated for a long while, especially in the morning as he wakes up; then, on pushing from behind forwards, it is rare that you do not get a drop of a ropy, limpid, or scarcely turbid liquid, too small ordinarily to fall, but visible between the lips of the meatus, which, by the way, you often find glued together by this dried mucus, either during the whole day or in the morning only; finally, there may exist no other trace of a flow than a few viscid filaments, which stretch between the sides of the meatus when they are separated. One of the last symptoms experienced by the patient in blennorrhagia is the difficulty in passing urine. This difficulty, often very great during the acute stage, diminishes afterwards, and finally disappears, so that the only trouble that remains for a certain time, is the bifurcation of the stream at the beginning of micturition, or its twisting in the form of a gimlet. These two phenomena, which are only produced accidentally in the healthy state, are due to the viscid mucus which glues together the walls of the urethra and resists the first impulse, but this liberty of the function is only transient. At the

end of a variable period the urine is not ejected, so far the stream is smaller; the bladder empties itself more slowly, finally the patient experiences a dysuria, which, left to itself, can only increase. To the acute inflammatory swelling, which caused the first constriction, has succeeded the chronic lesion which keeps up the swelling, slow in its course but continuous in its progress, and which will produce, sooner or later, a stricture, with all its consequences. From this you can foresee that, in every blennorrhœa, there will be stricture. And, in fact, this happens every time the lesion is not confined to the prostate; but you must not expect to find, from the very beginning, a stricture such as we generally understand it. That stricture which arrests probes and ordinary bougies, occurs only at an advanced period. When the blennorrhagia is near its commencement, the swelling is still very slight; there is, perhaps, only a rigidity of the inflamed walls, in lieu of their natural suppleness and elasticity; to feel the obstruction, you must use a bougie à boule of a proper size, and handle it with all possible attention; then, on reaching, either from before backwards, or behind forwards, the seat of the lesion, you remark a slight resistance, and the patient complains at the same time of a little pain which he does not feel when the *boule* is either in front or behind.

The bougie à boule again furnishes an important sign for establishing great probabilities in favor of the existence of an ulceration; it is rare, indeed, when it has met with the characteristic ulceration of blennorrhœa, that it does not return a little tainted with blood, although there has been no violence capable of injuring the mucous membrane. If now we compare with blennorrhœa the herpetic discharges, we shall not find, in the symptoms we have just reviewed, anything on which to establish a positive diagnosis.

The flow presents no difference; the pain presents more particularly the character of itching or of prurience; but this character, though often appreciated by patients, is too little demarcated to deserve our attaching any importance to it. The

stream of urine is not diminished by the patches or herpes, and the bougie à boule meets with, for the most part, no resistance; but the first of these signs is wanting in incipient blennorrhœa, and the second is so little marked that its absence can not suffice to sustain the diagnosis.

In short, these symptoms, interesting in the study of the disease, would not do to establish the diagnosis of the different kinds of discharges if the endoscope did not allow the discovery of a lesion proper to blennorrhœa. We have seen, at the end of the last lecture, that blennorrhagia, in passing into the chronic, locates itself in the bulbo-membranous portion of the diseased part, and that the mucous membrane of the diseased part, at first simply depolished, soon becomes rough; these inequalities augment, multiply, and end by forming rounded hemispherical projections; the granulations are formed. Then the diseased point offers a surface of a deep red, uneven, studded with round granulations, sometimes a little removed from each other; at other times in juxtaposition, so as to cover the entire diseased surface. The mucous membrane at this point presents the aspect of a mulberry, according to the comparison which came of itself to the minds of those to whom I have showed it, as well for the color as for the granular aspect. The granulations vary in volume from a grain of mustard to the size of a grain of millet, or somewhat larger, seldom of the size of a small grain of hemp, the smallest seem to be of a more recent formation. In the cases with which we are now occupied, the lesion is only found on the mucous membrane of the bulb and of the membranous portions of the canal.

The granulations represented in these figures can be considered as a type of granular urethritis, which is rarely found as well characterized, although always easy to recognize. In the prostate the mucous membrane only presented a redness, which augmented as the instrument was withdrawn; in the membranous portion you saw the granulations commencing—one of the sides was granular and the other only red; lower, the granulations occupied all the

field of the instrument; finally, more anteriorly, in front of the bulb, the mucous membrane resumed its even aspect and natural state; it was only redder than in the healthy state, and was corrugated into a chicken's anus at the end of the probe. Granular urethritis offers a complete resemblance to granular metritis, and still greater with the conjunctival granulations, which doubtless is owing to the fact, that for the anatomical disposition and the conditions of vitality, the urethral mucous membrane is more nearly allied to the conjunctiva than to the mucous membrane of the cervix uteri. It is impossible, on examining these three affections, not to see in them a lesion of the same nature—the expression of the same disease on three different organs. The granulations are almost always of a red color, more or less deep, often of the color of urine dregs; but in some cases I have seen in the middle of them other granulations less numerous, small, and which appeared to be grayish in color, which circumstance would bring them still nearer to the conjunctival granulations, as they are described by M. Wecker.

We shall have later an occasion to return to this resemblance. The granulations can occupy a longer or shorter length of the canal, most frequently from two to four centimetres; sometimes the entire posterior part, from the extremity of the spongy region to the orifice of the bladder; but an almost constant characteristic is, that the lesion is unique, let it extend little or much, there is no interruption between its two extremities. You do not see it in isolated patches separated by portions of healthy mucous membrane. The granular ulceration is only found at a single point, more or less extended, in front of and behind the diseased part there is an inflammatory redness, which diminishes in proportion as you leave the seat of the granulations. The herpetic ulceration is very different, and with some attention you may recognize it

But before entering upon this subject, gentlemen, I must first tell you that if I employ the term herpetic patches, it is solely because this species of ulceration corresponds exactly with the patches of herpes that you observe on the skin, on the lips, on

the neck of the uterus, and not because I regard them all as produced by the herpetic *vice*. On the contrary, I think that many of these ulcerations are of an arthritic nature, according to the circumstances in which they are produced and the character of the exterior eruptions with which they are very often connected. I adopt on this point the ideas of M. Bazin on arthritides.

Only not having as yet any local signs which permit me to distinguish the arthritic and herpetic ulcerations, I confound them together under the most generally adopted denomination. Ordinarily these herpetic ulcerations are multiple—you find them at several points of the canal; besides, they have a fugacious and movable character which you see in ulcerations of the same nature, which form *aphthas* in the mouth or that you find on the cervix uteri. The patches that you have recognized on one examination is often no longer seen on the following, but you meet with others situated in other places.

These ulcerations differ again from the granular ulcerations, because they cover, in general, a much smaller space. Finally, we must add to these characteristics an aspect quite different. Their surface is not granular—often it is simply depolished like that of the aphthas of the internal facies of the cheeks or like those patches divested of epithelium that you frequently find on the buccal mucous membrane of smokers. They then resemble recent blennorrhagic ulcerations, but the characteristics, which I have just given, distinguish them; and besides, you will not confound them if you remember, that in blennorrhagia this aspect of the ulceration shows itself at a time when the inflammation is in the acute stage. There exists still another form of herpetic urethritis, which seems to be deeper; it is the one I have shown you in a patient that comes to be treated at our clinic. The ulcerations which he presents are less variable for their seat than the preceding; they are uneven at their surface, and if it were not for accessory circumstances, I should feel tempted after a superficial examination to regard them as blennorrhœal ulcerations on the way to formation; but, with some

attention, you soon recognize that instead of projections, the inequalities form pits, whereas the granular surface may be compared to the surface of a mulberry; this one offers rather the depressions of the skin of an orange or the little cavities of a thimble. Before going any further, allow me to compare these affections of the urethra with the affections of the same nature which we observe on the cervix uteri. On this last organ the granular ulceration is unique, as in the urethra. Since I have commenced studying its distinctive characteristics, five years ago at the hospital of Lourcine, I have never found on the same patient but a single granular ulceration beginning at the lips or in the cavity of the neck and extending more or less far from the os tincæ, but without ever being intersected by healthy parts. The herpetic patches, on the contrary, are the most often multiple and irregularly dispersed on the surface of the neck, and many of them present these cup-like depressions of which we have just spoken, and which we compared to the little cavities of a thimble. When we examine on the neck of the uterus completely recent herpes, we often see, as I have several times shown you, small vesicles on the surface of the patches, and if on the following day we look at the same, the vesicles are no longer to be seen, but in their stead we find the cups, whose mode of formation now appears to me easy to understand. Though in the urethra I have never seen the vesicles, I think the cups must there be formed by the same mechanism; but they persist less, doubtless owing to the difference in structure of the parts, and they are consequently less easily discovered. But they do not the less constitute a good differential characteristic.

The distinction which we have just established between the different kinds of discharges which are generally confounded, and that the use of the endoscope has permitted us to connect with lesions of very different natures, will permit us to understand the peculiarities that are remarkable in the course of blennorrhœa, as it is generally understood. Blennorrhœa or granular urethritis (because for us these two expressions are

synonymous) follows a course essentially chronic, and leads to stricture. The pain, or rather the painful sensation which takes its place neither augments nor diminishes with time; it is the same with the flow, but the trouble in the emission of urine, on the contrary, constantly augments the dysuria, which appears imperceptibly after a variable duration of the affection, becomes more and more intense, until the stricture is complete. This course of the disease is influenced by very few circumstances of atmospherical variations, the changes of seasons have no perceptible action on its digressions in régime, fatigue ordinarily augments the pain and the flow when the patient exposes himself to them during any length of time; but it is not so with sexual intercourse, which produces very easily the exacerbation of the symptoms, and often causes a return for some days of a subacute inflammatory state. However, when the disease is old, and a stricture already formed is surrounded by an inflammatory congestion, excess in drinking, the fatigue of riding or driving can, without being of long duration, augment the dysuria; it is thus we see a ride, a day's journey, or a too copious and too well wined dinner followed by a temporary retention of urine, owing to the congestion which they have caused in the urethra and the surrounding parts. But soon everything returns to order, and the disease resumes its uniform march.

We see, however, discharges which disappear completely and afterwards reäppear with the pains which accompany them without knowing why; we see some, and it is not rare, which only show themselves once or twice a year, sometimes oftener, but always at about the same time, most frequently in the spring, then in autumn; and if I refer to my experience, winter would come in the third order, and the hot season would produce less than the others. I know patients who were taken every spring for several years with what has been termed a "blennorrhagia à répétition"; others come to me after considerable changes in the weather, and principally if the temperature became piercing, or cold and damp. In such a case use the endoscope, and you will find somewhere in the urethra, high or low,

most frequently at several points, some of those patches of herpes that I described to you just now; you will find no granulations. It is, as I have just told you, in the seasons that cause the most rheumatismal affections that you see the most of these accidents; also I would observe that this would be another reason for comparing them with the affections of the tegumentary system of which M. Bazin has formed the class of the arthritides.

Perhaps you will ask if the true blennorrhœa can ever reäppear? I shall not hesitate to answer, no, provided that the cure be complete; but if there remain any granulations, although the external symptoms have nearly disappeared, there can very well result another variety of blennorrhagia, à répétition, which you will meet with quite often. I have seen for a long time a patient who had suspended his treatment before the cure of the granulations. Well, he might have, following his expression, a little humidity of the canal, the passage of urine might cause him a little annoyance, but it was so insignificant that he did not think about it. However, every time he had had intercourse with some old acquaintance, he came to ask the help of the endoscope, and I found his granulations as bad as ever. Travels, dinners, hunting parties did not affect him at all, and every time I saw him I could tell the cause of the pretended relapse without being mistaken. Analogous cases are not rare, you have all seen men who can not exercise their genital functions without catching a flow; whenever I examine any of them, I find on them urethral granulations. The course of blennorrhœa is, as I have said, essentially chronic; we shall pursue it in the next lesson until it disappears after having produced stricture; but before coming to that, it can last months, years without losing its character of granular urethritis. I will here relate to you the history of a patient whose granulations had lasted for eleven years. I have seen some of a very much longer standing; but the following observation, gathered from the first patient that I subjected to the endoscope, will furnish a very complete picture of the affection:

D—— had sent for me in the course of the month of October, 1855, for an acute orchitis. He affirmed that he had not had for a long while any blennorrhagia; but a clear and very scarce flow had remained after an acute blennorhagia, contracted in 1846. Generally he did not notice it, but whenever he pressed his urethra in the morning before urinating, he found a few drops of clear, slightly ropy liquid. Soon I learned that his stream of urine was very fine, distorted, and fell almost vertically. Once his epididymitis cured, the patient, who was a little troubled about his dysuria, subjected himself to a complete examination. In the bulbous portion of the urethra I found, with the aid of a bougie à boule, a stricture which a *boule* of 2 mm. 1.3 could only pass with difficulty. The passage was a little painful, and the ball returned tainted with blood. I ascertained that the constricted portion was over two centimetres long. I then passed to the endoscopic examination, and the probe being introduced till it reached the stricture, I found at this point an inflamed surface, red, covered with small granulations of about the size of millet seed, some larger, others smaller. I had, in short, before my eyes a granular ulceration presenting the same aspect as that of the cervix uteri. On withdrawing the probe, the granulations disappeared immediately, and there only remained a redness, which also soon ceased; the remainder of the urethra was healthy up to the meatus. This lesion once discovered, it appeared to me that it already explained the whole disease; for it was easy to understand the persistence of a flow fed by a granular ulceration similar to that, the rebellious character of which we see every day on the conjunctiva and the uterine neck. This ulceration threw light at the same time on the subjacent chronic congestion which produces the coärctation that I had spoken of. I then understood, also, by the persistence of the granulations, why I had so often seen in analogous cases, in spite of what most authors say, discharges persisting after the complete dilatation of strictures to which they were attributed, and which reproduce themselves soon after the use of bougies had ceased.

Finally, I resolved to treat this lesion in the urethra as we treat it on the cervix uteri, and in order to well ascertain the connections between cause and effect which might exist between the ulceration and the stricture, I made it a point to employ no direct means against the latter. Besides, the endoscope would allow me to act on the morbid point as we act on the uterine neck at the bottom of the speculum. I therefore set to work to practice cauterizations with a concentrated solution of nitrate of silver, which I carried to the morbid point through the probe, and of which I could ascertain the effects by means of the eye. These cauterizations were repeated every two or three days. In the interval the patient made injections with the decoction of roses of Provins. Although the strength of the nitrate of silver was one part to three parts of water, the pain was very moderate.

This treatment, commenced the 5th day of December, 1855, had been kept up for more than a month, when, on the 25th of January, 1856, without suspecting it, the probe had penetrated into the bladder; it had passed the seat of the stricture without my feeling any obstacle, and yet it was a little more than nine millimetres in diameter, and completely filled the anterior part of the urethra. It was evident that the stricture had disappeared without other treatment than that of the granulations. I could then examine all the urethral mucous membrane, commencing at the neck. The prostatic region was slightly red; this redness increased in the membranous portion, and toward the union of this portion with the bulb was seen the ulceration of which the granulations were scarcely visible. Besides, the patient assured me, that for some days he had been urinating as well as in his youth. These cauterizations caused the last trace of granulations to disappear; then the patient confined himself to continuing the injections for about ten days afterward, and then ceased all treatment some days after the flow had disappeared, and the bougie à boule passed through the whole canal without meeting with any obstacle. The endoscope only showed a little redness at the diseased point; the ulcera-

tion was consequently cured, and the stricture had disappeared at the same time without any treatment directed specially against it.

I have watched this patient for eight years, and the cure has not belied itself. I have described to you, gentlemen, the form and appearance of urethral granulations in their normal state; but they do not always present themselves thus, and you see at our consultations ulcerations in which you would not recognize the characters of the granulations, because they have suffered an alteration which it is necessary to know. Indeed, in quite a large number of cases of granular urethritis the granulations swell, lose their hemispherical form, become softer, and take the aspect of proud flesh. Then in the field of the instrument you find a surface altogether similar to that of a suppurating wound. In the movements of the probe you can judge of the consistency of this proud flesh in seeing how easily it can be deformed and displaced. When the granulations have suffered this transformation, the flow becomes a little more abundant and more purulent, sometimes enough so to slightly soil the linen. It seems that the erosion has become deeper; that it has ulcerated; at the same time it bleeds more easily, and the cotton carried to its surface returns covered with blood. The alterations may be still further complicated; then the projections become larger, softer, and more uneven; they are pressed on each other; their color becomes of a dark red; the ulceration has become fungous, it bleeds at the slightest touch, and often the blood oozes out with such a facility that it hides the parts; scarcely has it been wiped, when it reäppears at the end of the probe, hardly leaving time to perceive the surface of the ulcer. It is not even rare to see these fungous ulcerations bleed so easily that the simple passage of a bougie with an enlarged extremity produces a flow of blood through the meatus. This modification of the urethral granulations is equally met with in the granulations of the conjunctiva, but is especially frequent in granular metritis. Thus we find again in this point the identity of the granular affections

in the three organs which are oftenest attacked. When following the treatment, which consists in caustic applications, the surface becomes less vegetating, you find again the ordinary granulations with their habitual aspect, which reäppear and furnish the proof of the true nature of the affection. We have seen that granulations have a very long duration; however, left to themselves, they finally heal, leaving after them a lesion which will not disappear any more than the cicatrix succeeding a wound disappears.

We are now going to study their termination. They can not exist without keeping up a painless inflammation in the mucous membrane and the subjacent tissues, and, as a consequence, the stricture ascertained by the bougie à boule—a stricture at first scarcely perceptible, but which, gradually increasing, ends by causing a greater and greater obstacle to the passage of urine. During a variable period this inflammatory swelling is increased by the infiltration of plastic lymph in the tissues, but without any organization of this lymph, constitutes by itself the stricture. If the granular ulcerations heal at this period, the inflammation disappears, and following it, the infiltration and the stricture vanish. This period, during which the tissues can resume the normal state, after suppression of the cause that kept up their alteration, lasts at times for a very long while, since in the observation that I related precedingly, the coärctation gave way of itself after the cure of the granulations, although this ulceration dated as far back as eleven years. But, however long this period may last, during which the infiltrated liquids are susceptible of reäbsorption, it is not possible for them to remain indefinitely in the tissues without undergoing changes analogous to those which produce indurations and callosities in the exterior parts, which are the seat of chronic irritations. Besides, the inflammation has gained the fibrous elements which enter into the composition of the urethra. Now we know that fibrous tissue contracts under the influence of a slow inflammation; thence a new cause of stricture, of which the action has been demonstrated by our colleague, M. N. Guérin.

When blennorrhœa has arrived at this stage of its evolution, the endoscope still shows granulations, but it is no longer sufficient to heal them in order to suppress the stricture; the granular ulceration predominates then no longer over the morbid action which it has provoked, and which continues its course after the ulceration has ceased keeping it up. Besides, without an appropriate treatment the granulations would not yet have disappeared. The infiltrated liquid is organized little by little, the new fibrous elements develop themselves here, as also elastic fibres, which join themselves to the primitive fibrous elements already retracted by the inflammation, there results a tissue analogous to the tissue of a cicatrix, or rather a real inodulary tissue, which takes the place of normal tissues.

In this transformation the vascular element has largely disappeared, so that the mucous membrane of which the vessels have been largely destroyed, loses its red inflammatory color and becomes even paler than the natural state. But the alteration of which it is the seat does not stop there. The granulations end by being destroyed by absorption by ulceration; then also, perhaps, because the work which they determine around them, obliterating the vessels, brings on their atrophy. In proportion as they disappear, the mucous membrane itself, of which they have destroyed the structure, takes the aspect of cicatricial tissue like the subjacent strata. Then the blennorrhœa is ended, the granular urethritis has terminated its evolution, and leaves in its place an inodulary stricture. We have no need of insisting on the parallel which could be drawn between the granular affections of the urethra and that of the conjunctiva, if you bear in mind the differences in the functions of the two organs, you will easily see that the course of the disease, its effects on the tissues, and its termination, are essentially the same in both cases. It would be impossible to say how long a time it takes the disease to destroy the texture of the affected parts. Sometimes in one year, and even less, the inodulary tissue is already organized, but most frequently several years are necessary to terminate the evolution of the dis-

ease and bring on at once the healing of the granular affection and the organization of the stricture. We have related the case, very remarkable for its duration, of granulations, which after eleven years were still at that period of incipiency where the stricture yields at the same time as the lesion, which is its cause. But we have observed in another case a slowness, yet much more remarkable in the course of the disease.

The patient, a lieutenant in the French army, had contracted blennorhagia, in Bohemia, at the time that this country was in the hands of France—that is to say, if I am not mistaken, toward 1813. When he consulted me, in 1860, he had a considerable retention of urine, and which had been coming on little by little for long years. Besides, since his first attack of blennorrhagia, he had contracted no other, but had retained a very slight oozing, to which he paid no attention. His stricture yielded easily to bougies; but from one day to another we lost a great deal of what we had gained. I thought, therefore, that there was still an ulceration, and that the endoscope was necessary; and, in fact, I found the mucous membrane red and studded with perfectly characterized granulations, without any of the signs which we shall see belonging to organic strictures. The ordinary treatment for granular affection overcame the ulceration; but to subdue the stricture it was necessary to employ dilatation. Only after the healing of the granulations it ceased reproducing itself rapidly, and from that time the patient contents himself with introducing, at long intervals, a bougie, which most frequently does not encounter the least resistance. Here is then a granular urethritis which, in more than forty years, had only reached this second period of its evolution, when the stricture, due to an old effusion and to the retraction of the fibrous tissues, is no longer completely under dependence on the primitive affection. I cite this fact as a limit of long duration of the disease, which might be compared to the blennorrhœa of that ancient surgeon of the Hospital du Midi, whose history M. Ricord has recorded (1), Letters on Syphilis, third edition, Paris, 1863.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

London, Eng., August 13, 1873.

Prof. E. S. Gaillard, M. D., LL. D.:

My Dear Friend,—A spare hour here, *en route* to Scotland, gives me an opportunity to write a few lines. The same day we witnessed the operation described in my previous letter as performed by Dr. Péan, we called again upon Prof. Dolbeau. At our former visit he was absent, having been called to Sedan to operate; now we fortunately met him in his office, where we were pleasantly entertained some minutes.

Prof. M. Dolbeau's Perineal Lithotrity, or New Method for Removing Urinary Calculus.—He designs by perineal lithotrity, the operation by which at a single sitting stone in the bladder, of whatever size, may be more safely removed than by lithotomy. In his work recently published, it is fully explained how this may be done; and he kindly exhibited his peculiar dilator, a six-bladed instrument, by which the urethra is opened up, and his special forceps for fragmentation of the calculus. There are four periods for dilating this canal before reaching the bladder. A mere puncture is first made by a bistoury in the perineum on a wide, grooved staff passed down to the calculus. Then the dilator is substituted for the knife and the first dilatation made; the second one after the instrument is passed down to the prostate gland, then again through this organ, for the third time, and lastly, once more after it is pushed into the bladder. Ordinary forceps are now employed, as is usual in lithotomy, and the stone extracted; but if found too large, it is crushed by forceps so constructed as to prevent its escape when seized.

We were assured most positively that the urethra is never ruptured in this method, but in its longitudinal direction. The operation is represented to be almost a bloodless one; and we were invited to see a patient over seventy (70) years who, on the fourth day after the operation, was walking out in the

garden of the hospital. We are satisfied that Dr. Dolbeau's method deserves a candid examination by the Profession.

EDINBORO', SCOTLAND, August 17, 1873.

Called on Mr. Lister, with an introduction from our mutual friend and distinguished countryman, Dr. J. Marion Sims. An invitation to lunch the next day, and then a visit to the Royal Infirmary was at once tendered.

The first case he called my attention to in this institution, was that of necrosis of the thigh of a woman in whom he had removed a sequestrum from the popliteal region a short time since. In removing the dressing, the carbolic spray was kept playing upon the wound, while the drainage tubes were replaced, and the compresses, etc., including the fingers and instruments, were all dipped into the antiseptic lotion.

In the case of carcinomatous mamma, in removing the scirrhous glands from the axilla, he did not hesitate to divide the pectoralis major muscle by an incision through the skin nearly at a right angle to the previous one for the mamma. The flaps were secured by metallic sutures having heads of pieces of lead. The patient was doing well.

In a third one, he had made a resection of both bones of the leg; and in another, had exsected a portion of the femur just above the patella.

In strictures of the urethra, he used the right hand alone. While the penis is flaccid, he introduces the metallic bougie with its beak to the floor or inferior surface of the canal; and when arrived at the bulb turns this upwards to pass through the curvature sub-pubic. This is the reverse of my own practice, which has been to use both hands and to keep the point of all urethral instruments against the superior surface of the canal.

Mr. Lister would be no doubt right (nor is he alone in this practice) if it were true, as he says, that strictures of the urethra oftenest exist upon the inferior surface.

This surgeon, too, as is well known, uses what he calls anti-

septic ligatures exclusively. These are composed of catgut soaked in water and oil, and then in an antiseptic mixture containing carbolic acid.

He impressed me with the honesty, as well as zeal in his professional opinions; and while there may be few found willing to admit his peculiar notions, such as the poison of the atmosphere to wounds, etc., good will no doubt be the result of his honest intentions. The immediate reünion of wounds; the prevention of irritation and putrefaction, the advantages of delayed dressings in general, may be the result of his investigations.

Mr. Lister is a fine specimen of a Scotchman; is now forty-four years old; married a daughter of the celebrated surgeon, Mr. Syme, and has only recently been called to teach surgery in Edinboro', where a wide field is open to his ambition.

Miscellaneous Medical Items.—I left M. Nélaton dying in Paris.

Did not meet either Dr. Ricord or Baron Larrey, as they were both out when I called. Dr. R. is still in full practice up to 12 M. every Saturday, when he leaves for the country to rest Sunday. His business diurnally extends from 12 M. to 1 or 2 o'clock the next day. He was recently called, professionally, to Constantinople, and it is presumed he *got a fee.*

M. Erichsen was at the Brighton much better.

The cholera was extending in western Europe.

A death in the Birmingham Hospital recently occurred from methylene.

A notice appears in the "London Lancet" of the North Carolina University having conferred the title of LL. D. on Professor Gaillard, M. D., of Louisville, Ky.

August 31.—We have just reached New York.

Yours, as ever, PAUL F. EVE, M. D.

LACONA, JEFFERSON CO., KY., Sept. 24, 1873.

Dr. E. S. Gaillard:

Dear Sir,—Before the adjournment of the Kentucky State Medical Society at Paducah, in April last, the Society ordered

five hundred petitions for a registration law in this State, with blank paper attached for signatures. These petitions were placed at my disposal. When they arrived, I found the blank space on them was five and a half by seven inches—room enough say for the names of one-half of the doctors of the State. I at once ordered fifteen hundred new ones, with blank space four or five times as great, and an equal number of circulars embracing Report of Registration Committee and a few words to the doctors of the State on the subject of registration.

These petitions and circulars I dispatched to all parts of the Commonwealth over two months ago.

The labor of getting the names and post-office address of the doctors of Kentucky, in the absence of any directory, is greater than you suppose.

I do not believe there is one in eight of us who takes a medical journal that is edited and published in the State. But by taking the names of the Kentucky State Medical Society, the subscribers to both medical journals published at Louisville, laying under contribution my acquaintances in the Legislature, and calling into requisition the lists of subscribers to newspapers, I managed to get between eight and nine hundred names outside of Jefferson county.

Notwithstanding all my efforts, there were a few counties in which I could not get the name of a single physician. To the county towns of these counties I sent a few petitions and circulars addressed to "Any Physician," on the plan of the quack-nostrum and lottery men.

I am in hopes the physicians into whose hands these petitions fall will work as zealously for the cause; and, in the well-filled petitions they return to me, advertise to their brethren in the State their full names and proper address.

The physicians of the several counties were asked in the circular to obtain the official signature of each and every official and ex-official, the names of the clergymen, judges, all lawyers, all doctors, with the request to waive modesty and put M. D.

after their names; all senators, representatives, and as many of the representative citizens as possible to our petition.

Although the physicians were not asked to forward the signed petitions to me at Lacona, Ky., until September 20th, I have already received well-filled petitions from parts of the counties of Boyle, Butler, Fayette, Metcalfe, Campbell, Henry, and Trimble.

To the gentlemen who have thus promptly attended to this important duty, I return the sincere thanks of the Committee on Registration.

It is not probable that there will be much difficulty in identifying and locating a petition that belongs to a given county, yet I wish that each physician who gets a petition filled, would write distinctly the name of the county at the top of the petition; thus—From the county of Adair.

While discussing this matter of registration, the repeated failures to obtain the law arise before me, and it seems incredible, taking into account the intelligence and influence of our Profession, that we could have acted so foolishly; knowing our rights and privileges under a democratic government, and how easy it is to obtain anything from a Legislature, if we fully impress them that the popular will demands it; and having the acquaintance and confidence of every man, woman, and child in the State, it is sheer carelessness and laziness that we are without a registration law to-day.

Suppose, for example, we had wanted a peaceful revolution of any sort, and had two thousand four hundred and fourteen graduates to work for it, how would any man of common sense, not to speak of a skillful general, with this force at his command, have disposed his troops? Would he not have distributed us precisely as he has distributed us? Giving us what we already have—the right to enter the front or rear door of every house in the land, and always be greeted with a cordial welcome?

Is it not true that every family in the land has its family physician, to whom they go for relief from disease and for ad-

vice to prevent disease? Has not every clergyman, judge, lawyer, senator and representative his doctor, to whom he would listen, and by whom he would be governed, in a matter of this sort, unless the doctor was too lazy or too indifferent to tell what he wanted?

The truth is, we hold success in the hollow of our hand, and I appeal to every medical man in the State to do his duty, by filling every petition he has received. If the prominent names designated are already collected by another doctor, get your petition filled by anybody who is a voter in your county. If you need more blank paper, paste or pin on a sheet, so that we may present such an array of names that there will be no manner of doubt in the minds of our Senators and Representatives that they ought to give us a registration law.

Practicing in a sparsely settled malarial district of country, my time is all occupied; and when I tell my medical brethren that I have devoted night after night to the cause of registration when I should have slept, I hope they will not begrudge the little time it will take to fill up a petition.

There are two principal objects of the registration of births, marriages, and deaths. The first is to obtain and preserve a complete record of the movement and changes of the population of a country, for the purposes of legal and genealogical investigations. The identification of the individual for these purposes, in his relations to his family and to the community, must be considered the primary object of registration, and is of equal importance to every citizen. Wherever the rights of property and the social interests of the people are of any consequence, it is certainly necessary that a complete record of the birth, marriage, and death of every individual should be carefully preserved.

The necessity of registration, and the accumulation, study, and analysis of vital statistics is demonstrated day by day, as the result of these investigations explode the errors of the past.

For example, thirty years ago it was taught that the common day-laborer was the longest-lived man, whereas it is now con-

clusively settled that light work, an assured income, and freedom from care, promote longevity. At the same time it was believed by many that life, and success in life, were a lottery in which the illiterate boor had as good chances to win a competence and respectability as the learned and skilled. It is now clearly ascertained that the rich live longer than the poor, the wise live longer than the ignorant, the cleanly live longer than the uncleanly, and that the illiterate, unskilled boy has eleven times as many chances to land within the walls of a prison, as the one who has an education, and has learned some useful trade or occupation. But we go forward in the old rut, and prove our light estimate of ourselves by numbering and valuing in dollars and cents the horses, cattle, sheep, and hogs, while the birth, marriage and death of man are of no moment. Mankind are inconsistent always and everywhere. Here in Kentucky we hold up our herd-book, and quote with the greatest pride the pedigree of our bulls, while we ignore the pedigree of their owners.

We record with the greatest accuracy the title to a few acres of land; our stud-book is a subject of adoration and intense study; but what was the maiden name of our grandmother, and whether she had, or we have, any legal title to the name we bear, is of no consequence. We act as if men were far inferior to the brutes that graze the field; and, in our folly, by failing to register the birth of the child (as we record the title to the land) we are paving the way for large areas of land and whole herds of cattle, to descend to those who are not the true owners. Without registration we are in ignorance, and will remain in ignorance, of the salubrity, or insalubrity, of different parts of our own State. In our present lack of knowledge, if we would seek relief from that insatiate monster, consumption, we go as blindly to Perry and Pike, or to Crittenden and Caldwell counties for a better air to heal our malady; as a drove of sheep, persecuted by flies, dash from one part of a pasture to another.

Let us change our course. Let us determine by the statistics

of registration where human life is most secure in the State, and how to prolong it; for the highest type of medicine is preventive medicine. Let us be stimulated in our exertions by the thought that the most intelligent people of the earth are the first to adopt registration, and cling to it with the greatest tenacity. Let us remember it is facts we want, and there is no danger of our getting too many. Let us not forget that in birth we are welcomed to life by the best friends of our father and mother—smiles lighting up all faces, and kind prophecies illume the pathway we are to tread in future; again, when we are married our best friends are assembled to wish us joy and God-speed; at last our tried friends, with sympathy deep and true, with earnest, honest sorrow, see us laid in the grave. If we have distinguished ourselves, there is a tradition for a few years or for a few generations, according to circumstances, but no accurate record is kept of whom we were born, to whom we were married, of what or when we died, while of the multitude the *tradition* soon becomes a myth.

Now, if it be true that "the hairs of our head are numbered," and that "a sparrow can not fall" without note, then God has set us the example for registration.

Let us resolve, that hereafter no immortal soul shall come among us and flit away without our duly describing by record the casket that contained the jewel.

The second principal object of the registration of births, marriages and deaths, is to furnish facts for statistical, scientific, medical, and particularly for sanitary purposes.

When we consider the relation of statistical and sanitary investigation to the welfare of a people, and the results of such investigation in the prevention of disease, and in adding to the length of human life, this object of registration appeals directly to the sympathies and interests of the community as well as of individuals.

The late Dr. W. L. Sutton, who was the father of registration in Kentucky, while discussing this matter from a pecuniary stand-point, said: "It will readily be admitted that one hun-

dred years ago, before the foot of a white man had pressed any part of the wild domain which is now embraced within the limits of our State, there were in the same places the same soil of unsurpassed fertility, the same beds of iron ore, coal, marble, etc., as now exist; the same broad and navigable rivers, the same subterraneous streams of salt, and other mineral waters. There existed too, perhaps, as many animals, and as many kinds, as are now found. Yet this beautiful region was of no use, save as a place where the Indian hunters could kill their game, or each other, as might be most agreeable for the time being."

What makes this region so different in 1854 from what it was in 1754? It is because civilized man has appeared on the stage, and assumed control and management of all these sources of wealth. The richest land, the broadest rivers, the banks of coal and iron, nay, the most costly factories, produce nothing without man's management. It follows, then, that man is the *great* item in the wealth of a State.

This proposition admitted, all will agree that the State should take suitable pains to be well informed as to the condition of her population. The population of every State is made up of two classes—the supporting and the supported. The first class consists of the able-bodied citizens between fifteen and sixty years; the second, of those below fifteen and above sixty, and the sick or disabled of all ages.

It must therefore be remembered, that the real wealth of a State does not consist in the *number* of her people; but, on the contrary, in the number and efficiency of the first class. If the first class be in bad condition, it will be less able to provide for the second, whilst if the second be unusually large or particularly unhealthy, their support becomes the more oppressive upon the first. But as it is the duty of a State to understand the condition of her people, so it is equally obligatory to increase their efficiency, and obviate all causes calculated to have an injurious effect upon their health or prosperity.

Those who have paid most attention to the subject, are satis-

fied that a large proportion, say twenty to thirty per cent., of the mortality and sickness of every people is entirely preventable by human means. It is probable, from facts and calculations, that there are annually in Kentucky 18,000 deaths—then there are 4,500 which might be prevented. Say again, that for every death there are ten cases of severe illness—then there are 45,000 cases of unnecessary sickness. Will any one compute the expense in time and money of these 45,000 lives, and these 49,500 cases of sickness, for it must be remembered that the 4,500 deaths were preceded and followed by the expenses attendant upon sickness and burials? We dare not set a value upon human life; but if these 4,500 who died had all been slaves for sale, their average value would have been about $300. Say then the lives of the whites are to be computed at that of slaves in market, we have for 45,000 lives at $300 each, $1,350,000; 49,500 cases of sickness at an expense of $30 each, $1,485,000; 4,500 burials at $10 each, $45,000; footing up an annual loss to the State of $2,880,000. Nor is this all. A certain portion of the widows and orphans left are destitute, and must be supported at the expense of the public.

After settling this account of public loss, who shall compute, in dollars and cents, the amount of suffering endured by the sick and dying, and the anxiety, distress, crushed affections and desolation of feeling endured by the friends of the sick and the relatives of the dead? Will any one say that the above estimate is extravagant? It is in fact much below the truth. And, is it a light thing to save the State annually the lives of 4,500 of her people? In Rome, he who saved the life of *one* citizen was considered worthy of a civic crown. Is it a small thing to save the people of the State $2,880,000 and 4,500 lives annually?

But the State can know nothing of the health and efficiency of her population, except as guided by the light of registration. That will tell her of what diseases her people died, and also where the greatest mortality is. It will tell her whether they die of preventable diseases, or of those beyond human control;

and, indirectly, it will teach her people how they may so live as to greatly lessen both sickness and death.

Who are to confer this benefit upon the State? Her physicians. Who are to reap this benefit? The people.

S. A. Foss, M. D.,
Chairman of Committee on Registration.

Burlington, Boone Co., Ky., August 1, 1873.

Editor of Richmond and Louisville Medical Journal:

Dear Sir,—Permit me to report four cases of cerebro-spinal meningitis that came under my care in February and March last.

Case I.—A son of Mr. J. A. C., aged two years. Saw the patient February 24th, evening. Had been vomiting for six hours, at short intervals. Had slight fever; some thirst; disposed to be playful. Prescribed subnitrate of bismuth, and sinapisms to the stomach. Was called again next evening, and found the little fellow with cold hands and feet, eyes closed, breathing heavily, head slightly back and to the left. Dilated pupils, and but slightly sensitive to light. Pulse barely perceptible; slight strabismus, etc. This I regarded a well-marked case of that fearful disease. Applied mustard to superior half of spine and extremities; remained till they became painful; then applied to the spine cloths saturated with tincture iodine, croton oil, and spirits turpentine. Gave brandy every hour until reäction was established. Called again in four hours; had some fever, and all the symptoms about as when I last saw him. Gave bromide and iodide of potass, in maximum doses, and every three hours

Tinct. Gelseminum;
Tinct. Aconite, aa gtt. xxx.

M. S. Two drops every three hours till the fever abated.

Called the morning of the 26th of September. Slept tolerably well most of the night. No fever; bowels moved, and appears better in every respect.

Fearing he would relapse again in the evening, ordered sul. quinine, gr. ss., every two hours. Called in twelve hours; had high fever, much nervous excitement, though no spasms as yet. Gave

Brom. Potass., grs. v.;
Sul. Morph., gr. 1-16;
Tin. Gelseminum, gtt., ij.;

M. S. At one dose.

Called again in three hours; sleeping quietly; perspiring. Pulse about normal. Ordered nothing. Called very early on the morning of the 27th September; well all night. Disposed to play with toys. Eats freely of eggs, milk, etc. Ordered the above prescription should the case require it. Called in the evening; had had a chill, followed by high fever, frequent spasms of the arms and legs; head back and to the left, strabismus, etc. Worse in every respect. Suffice it to say that the case was treated as above indicated for twelve days, at which time the little sufferer was relieved by death.

While waiting on this case, was called to see a colored child aged three years, in the same town. Found it to be a well-marked case of this disease. Gave

Hyd. Chloridi Mit, grs. v.;
Rhœi Pulv., grs. x.;
Sul. Morph. gr. ss.;

M. S. At one dose, to be followed with

℞—Bromide Potass, grs. x.;
Sul. Morph., gr. $\frac{1}{8}$,

in two hours if awake. Gave second dose as directed. Called again in twelve hours. Bowels freely moved three times. Still sleeping. Ordered perfect quietude, and called again in about eighteen hours. Had slept constantly for fourteen hours; awoke and ate freely of milk and eggs; playful, and in every respect convalescent. Called again in twelve hours, and discharged the little daughter of Ham sound and well.

Case III.—Called March 8th to see W. C., aged twenty-seven, a stout, healthy young man; brother of the infant (first

case) that died a few hours since. Found him with high fever, opisthotic strabismus, full, bounding pulse, delirious, etc.; had been complaining of a dull, heavy feeling in the back of neck for about twelve hours; laid down in his room, and was found by some of the family in the above condition. Having just lost his little brother, I felt the full weight of responsibility resting upon me. After a few moments' reflection, commenced treatment by injecting, hypodermically, sul. morphine gr. $\frac{3}{4}$ into the arm, then scarrified deeply and applied two cups to the nape of neck, and drew four ounces of blood. Removed cups and applied sinapism, twelve inches wide, full length of the spine, feet and thighs. In an hour he was partially relieved of spasm; head came slightly forward; he would answer questions rationally; gave hyd. chloridi mit., ℥j. at one dose, one hour after this; gave hydrate chloral, gr. lxxx. Saw him six hours afterwards; still sleeping profoundly; ordered perfect quietude. Called again in four hours; bowels been moved freely twice. Perfectly rational; no pain; says he is tired of medicine. Called again in eight hours; has slept well, but is easily aroused; has eaten with a good appetite. Discharged him the next day; he was on the street well, with the exception of weakness and sore gums from the use of mercury.

March 9th, called to the fourth case. This case was an infant son of Mr. S. C., four months old. This case was treated about like the first case. The symptoms in every respect being alike. Each one had vomited, at intervals, the day before the disease was developed by any other signs or symptoms. This case died on the 13th day of the disease.

REMARKS.

Cases first and fourth were alike in their approach. Each one vomited at intervals, for about twenty-four hours, before there were any well-marked symptoms of this fearful disease. Each one appeared to be convalescing on the second or third day, and relapsed.

We regard the gastric irritation in this disease as the result

of meningeal irritation, congestion, or inflammation, depending upon the stage of the disease. Could we recognize the true character of the disease by the nausea and vomiting, or diarrhœa, before it has made sufficient impression upon the meninges or spinal cord to produce the more pathognomonic symptoms by which we alone form our diagnosis, our treatment would doubtless be more successful. The more slowly the disease is developed, the more persistent is its course; this at least has been the result of my observation.

My second case was attacked suddenly with the unmistakable symptoms of the disease. The treatment was sedative and antiphlogistic, and the result favorable. This was also the result of my observation in an epidemic in this county in 1864.

The third case, an adult, was taken down suddenly with all the *prominent* symptoms, with no *premonitory* ones, save a few hours' pain in the back of the neck. Had no *nausea*, which is so soon followed by general depression of nerve energy, etc.

The treatment was founded upon the belief that we were contending with acute inflammation of the meninges of the spinal cord and base of brain.

The probable cause or causes of this inflammation will be a subject for a future article.

Very respectfully yours,

A. Sayre, M. D.

Danville, Ky., August 29, 1873.

Editor Richmond and Louisville Medical Journal:

Dear Sir,—I trust the following case may not be without interest to your many readers:

On the morning of the 17th August, 1873, I was called to see a vigorous, bright mulatto woman, twenty-years old, who told me she had had a miscarriage on the previous morning, and wanted me to ascertain if the placenta had come away. She said she was not over two months in pregnancy, and after close questioning, confessed that she had been taking "medicine"

from an irregular practitioner, resident here, to procure abortion, and that she had effected it by injections of warm water per vaginam, persistently denying all the while that violence of any kind had been used. The hæmorrhage had been considerable I suppose, but it had almost entirely ceased when I saw her, and was followed by an exceedingly noisome discharge, which kept up for a few days, and then became somewhat modified. The pulse and temperature did not indicate any very great degree of disturbance, the former being 80 and the latter 99½°; and I may here remark, that during the whole of her illness there was very little increase in either. She furthermore stated that she had been having chills for some days past, and not being prepared to examine then for the placenta, I prescribed for her quinine and carbolic acid wash, and left, saying I would be back soon to look after the placenta. On my return, several hours after, she told me it had come away during my absence, in detachments, showing me at the same time a portion, almost as much in mass as an English walnut in the vessel. I saw her again that night at 10 o'clock, and twice a day from that on. There was nothing of special interest in the progress of her case. She got over the chills, and went on fairly enough, with the exception probably of some irritability of stomach at first, considerable debility, and slight attacks of epistaxis. There were never any well-defined symptoms of peritoneal inflammation at any time, and firm pressure made on the surface of the abdomen at each visit failed to elicit any pain or tenderness, except on a small circumscribed spot in the right inguinal region. The only constant complaint she made was of a "lump" in her throat. Indeed, the mildness of the symptoms was in striking contrast to the extent and gravity of the troubles as revealed by autopsy. She was always refractory in carrying out directions, and I learned in the meantime that the fœtus came away in a state of decomposition, was as well developed as one in the fifth month, and that she had frequently declared her purpose of getting "rid of it or die."

She died, however, very suddenly and unexpectedly early in

the morning of the 25th August, just one week and a day from my first visit, under the following circumstances, as related to me by the attendant. She had asked to get up to stool, and upon resuming the upright position in returning to bed, "vomited a quantity of black stuff," fell over on her face and expired.

The necropsy held, eight hours after death (rigor mortis well marked) in the presence of Drs. McMurtry, Jackson, and Harlan, and Messrs. Nelson and Johnson, medical students, showed extensive peritoneal inflammation, a large quantity of sero purulent fluid in the abdominal cavity, and some faint attachments near the uterus, which was normal with the exception of a *perforation*, easily admitting the tip of the little finger through the cervix at the cul-de-sac, and to the left of the median line, made undoubtedly in the effort to bring about abortion by some kind of instrument. The heart and stomach were normal, nor was there anything in the autopsy to explain the cause of the sudden death, which was a chief point of interest in the case, as well as the absence of any well-marked symptoms that would indicate such a degree of inflammatory action as was seen after death.

Very respectfully,

GEORGE T. ERWIN, M. D.

MOBILE, September 9, 1873.

Dr. E. S. Gaillard, M. D.:

My Dear Doctor,—I notice in your review of Dr. Gouley's work on "Genito-Urinary Surgery," that you have been pleased to call attention to my paper on "A New Method of Treating Strictures after External Sections," published in your valuable Journal the past spring. In that reference you seem to place probably a little more value upon "climatic influences" in closing wounds by "first intention" than I had intended to convey in my incidental reference to that point made in the paper in question. As fine as this climate is, I am not prepared to say that perineal sections will close, unless aided by proper dressing. I am convinced by an experience of over

twenty odd years, in surgical cases, in Mobile, that they do better here than in any other place with which I am acquainted in the South; but I am equally convinced that the chief point to be made in all operations where primary union is desired, is to make the *incisions smooth*, and then *close the wound accurately*, using the "Pin Suture," which suture is to be passed *deeply*, and the spaces between the deep pins closed with smaller pins passed *less deeply*, the parts to be kept constantly wet with cold applications. I have met with primary union in ten cases (the only cases upon which I have ever operated by external division), and I believe that the rule will be, "union by first intention in all these cases," *where* an external operation is called for, *provided* the operation be properly done and the *after-treatment* correctly carried out.

I am so well satisfied with the result of these cases that I shall continue to pursue "my plan," whether in the climate of Mobile or some more northern location; and I shall remember the closing part of my paper, referred to, "that if it fails, I shall be the first to report the same." My object is not to foist a new operation, or a new method of cure upon the Profession, but to add something by which the horrors of this operation may be mitigated. At best it is a bad operation, and one which the Profession would do well to discard, so far as it is possible, to get rid of it. I admit there are cases requiring this grave operation, but I must say that in a large experience with strictures, the number of cases requiring "External Urethrotomy" are very rare. These are points which I have attempted to prove in a recent paper published.

Let those who wish to do external operations give my method a fair trial, regardless of climate; and if done in accordance with the rules laid down in that paper, I am willing to stand the test of the experiment. Good silver pins properly introduced, and plenty of cold water, will not leave much for climate to claim. When more at leisure I will furnish you a paper on "Pin Sutures," illustrated with a number of cases of both major and minor operations which united by first intention, and

which, in my opinion, would not have done so without them in any climate. I am truly yours,

C. H. Mastin, M. D.

Note.—The writer has, it seems, misapprehended the reviewer (Dr. J. L. Cabell, University of Virginia,) who did not intend to do more than claim a greater tendency of incised wounds to heal by "first intention" in good atmospheres and surroundings.—Ed.

Louisville, Ky., 1873.

Dr. E. S. Gaillard:

I noticed in the August number of your Journal an article from the pen of Dr. John B. Richardson, under the caption of "Hysteria with Anomalous Symptoms *Successfully* Treated by the Administration of Chloride of Gold and Sodium."

I would prefer to this, as I would to many articles of the kind published through the medical journals, this objection—viz., that they are calculated to mislead the young practitioners. I know of no class of diseases which present such harassing, annoying, and, I may say, *apparently* dangerous symptoms as does the above, hysterical convulsions, and are attended with as little *real* danger. Meeting as we do, these cases almost daily in our practice (being peculiarly incident to female life from the earliest age of puberty to that time in their history known as "the change of life,") we should teach the student the great importance of a correct diagnosis in these cases, thereby *dispensing* with the great amount of drugging we have all seen in cases of this character. I would offer no objection to the *Niemeyer* remedy, believing as I do that it would meet a good indication; yet, at the same time, I could not be impressed with the belief that it was other than temporary in its effects in such cases any more than bromide potash, chloral, morphia, and mono-bromide of camphor would be used under like circumstances; or, indeed, tincture assafœdita, valerian, valerianate of ammonia, etc., of this class which have proved equally successful if not superior in their effect to chloral, chloroform, and morphia, with which a patient is usually drugged during

these paroxysms. Indeed, I am convinced, after a number of years' experience in the treatment of such affections, that the least medicine we give the better. I have yet to see the case where the convulsions have been "cut short" by their administration. Unless, peradventure, I might use the hypodermic injection of morphia and atropia of which Dr. Richardson speaks, I would rely entirely upon his hygienic rules and the use of the mildest antispasmodics during these paroxysms, and at once proceed to what I consider the most important part of the subject—viz., an examination of the uterus, and think the Profession will bear me out when I say, that whenever hysterical convulsions are witnessed in the female, they have their direct origin in this organ or its appendages. Among this numerous class may be named amenorrhœa, dysmenorrhœa, menorrhagia, ulceration, and inflammation of the os, stricture of the cervical canal, etc.

I have no doubt but that Dr. Richardson's success in the management of his case was due to the introduction of the sea-tangle tent, as narrowness of the canal has been the most frequent cause of these attacks, in my experience, and have been invariably relieved by dilatation. I concede that there may be cases where uterine disorder may not be traceable, yet that it exists in some of its forms I have no doubt. In such cases I would rely upon some of the numerous tonics and the observation of hygienic rules, and of success I could not doubt. But no more would I think of treating a case of the kind without direct reference to the uterus and its appendages, than of treating the spasms of dentition without looking at the gums.

Therefore, to conclude, I would say that I have but little confidence in the many vaunted remedies in hysteria, and would discard all but the most simple antispasmodics during these convulsions, and rely upon the after-treatment which the condition of the organs called for; assisted by a good course of tonics, among which I deem strychnia one of the best. I have used with great success in the treatment of these causes electricity, of which I hope to have more to say.

The case reported by Dr. Richardson is one well suited to bear me out in my suggestions. His case was a young married woman, age seventeen and a half; medium height, slender; brunette; married two years; had *never conceived;* complained of *irregular* and painful menstruation, missing her periods for *several* months, then returning, but *small* in quantity. Upon examination, there was found to be *marked diminution* of the cervical canal requiring *dilatation*, which was effected with sea-tangle tent, and followed within *forty-eight hours* by *abundant* discharge, attended by *slight* pain. At the same time she was required to take sponge-baths twice daily, and other hygienic measures strictly enjoined. These were aided by a course of tonics, etc.

I leave the reader to judge what constituted the *successful* part of this treatment.

J. M. Mathews, M. D.

Wilmington, N. C., 1873.

Trismus Nascentium Cured with Hydrate of Chloral.

Prof. E. S. Gaillard, M. D.:

Dear Sir,—I wish simply to add another to the list of cures of cases of trismus nascentium by hydrate of chloral. A negro child (as usual), eight days old, living in a small and badly ventilated house, came under my care, and was treated with hydrate of chloral in the following way: A solution was made in syrup, and a teaspoonful containing three grains of chloral and five grains bromide of potassium, given every two hours for eight days, and the child has entirely recovered. I believe the dose unnecessarily large, and that the addition of the bromide of potassium was unnecessary polypharmacy. It is the first recovery which has come under my observation.

Very respectfully yours,

Thomas F. Wood, M. D.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Green River (Ky.) Medical Association.

The Green River Medical Association held its regular semi-annual meeting in the circuit court room of Calhoun court-house on the 6th of May, 1873.

President W. H. Hillsman, of Livermore, being in the chair, called the meeting to order, and, after a pleasant little speech of congratulation from him, the Secretary read the minutes of the last meeting, held at Livermore in November last, which, upon motion, were adopted.

Letters from chairmen of several committees expressing regret at being unable to attend, owing to their general engagements, sickness in their families, etc., were read, and said committeemen were continued upon their respective subjects, to report at our next meeting.

Dr. W. B. Rose, of Calhoun, chairman of the Committee on Obstetrics, read an able and very interesting article on Placenta Prævia, which reflected credit upon the committee, showing that they had been over much of the field of their subject, personally, and assiduous in consulting those who have written upon it.

Dr. Charles S. Todd, of Owensboro, chairman of the Committee on Special Subject for Discussion, read quite a creditable article on Syphilis, confining himself to its "unity or duality," and by the minuteness with which he entered into his subject, he evinced familiarity, and disposed of it, in part, by quotations from high authority, in a logical manner.

For the want of time, the Society did not enter into its discussion, as was expected.

The Society then proceeded to the election of officers for the ensuing year, as follows: Dr. W. B. Rose, of Calhoun, President; Dr. George W. Towns, of South Carrollton, First Vice-President; Dr. W. B. Miller, of McLean county, Second Vice-President; Dr. J. Q. A. Stewart, of Owensboro, Recording Sec-

retary; Dr. A. H. Bryan, of McLean county, Corresponding Secretary; Dr. S. S. Watkins, of Owensboro, Treasurer.

The President then appointed the standing committees.

On motion, the Corresponding Secretary was instructed to send a copy of the proceedings of this meeting to the "Medical and Surgical Reporter" of Philadelphia, to the "Richmond and Louisville Medical Journal," and to the Owensboro city papers.

The Association then adjourned, to meet at South Carrollton, in Muhlenburg county, on the first Tuesday in November next.

A. H. Bryan, Cor. Sec.

Marshall County (Ky.) Medical Society.

The following is a synopsis of the proceedings of the Marshall County Medical Society: The sixth quarterly meeting of the above-named Society met at Calvert City Friday, July 4th, 1873, President Dr. D. G. Smith in the chair. Prayer by Dr. W. W. Gilbert.

The following members were present: Drs. D. G. Smith, J. R. Troutt, W. W. Gilbert, G. W. Irvin, P. T. Henson, B. Franklin, H. Pinner.

The roll of officers was called.

The censors then retired to deliberate on the petitions of Drs. J. M. Mooney, H. Pinner, and Stark, and, after deliberation, returned the following report—viz., favorable as to Drs. Pinner and Stark; Mooney, unfavorable.

On motion and second, the report was received, and the vote taken, which resulted in the election of Drs. Pinner and Stark, and rejection of J. M. Mooney.

Dr. Pinner then came forward and paid his initiation fee, and was then declared elected by the President a member of the Society.

Dr. J. R. Troutt moved that the members elect have a certificate of election. Carried.

Dr. J. R. Troutt then presented the petitions of Drs. G. W. Irvin and W. D. Foster.

Dr. P. T. Henson presented the petition of Dr. C. H. Drane to membership in our Society. The petitions were received and referred to the Censors.

The President then called for unfinished business. There being none, new business was then called for; but no other business for the present time.

The President then called for papers, essays, etc.

Dr. D. G. Smith then read a paper on Utero-Abdominal Pregnancy, which paper was very well gotten up, and in it is related many very interesting points, and asked further time for the completion of the same for publication.

The case was a lady, aged twenty-eight, and recovered after the discharge of a fœtus in fragments, together with bones by ulceration from the bowels, and per vias naturales.

It was then moved and seconded that Dr. Smith have further time to finish his paper on Utero-Abdominal Pregnancy. Carried.

The Society then went into a lively discussion for some time on the case of Utero-Abdominal Pregnancy; after which it was further agreed that the members present take all the facts as related in the case into consideration to be discussed at our next meeting.

Dr. W. W. Gilbert then read a paper on Malaria, which was very interesting as far as it went. He promised to add more by the next meeting.

It was moved and seconded that Dr. B. Franklin have further time to prepare his paper on Cerebro Meningitis.

Dr. J. R. Troutt read a paper on Compound Comminuted Fractures, in which he recommended the starch bandage as the best mode of dressing fractures, etc.

It was then moved and seconded that Dr. Troutt's paper be referred to the Publishing Committee, with request to publish. Carried.

Dr. W. W. Gilbert moved to adjourn, to meet again 7 P. M. Carried.

NIGHT SESSION.

President in the chair; papers and essays called for, etc.

Dr. P. T. Henson read a paper on Thermometrical Observations, and he recommended the use of the thermometer in the practice of medicine as a means of assistance in making out a diagnosis, as all therapeutical applications should depend upon our diagnosis.

Moved and seconded that Dr. Henson's paper be referred to the Publishing Committee, with request to publish. Carried.

Dr. J. R. Troutt read a paper on Thoracentesis, which was very interesting as far as it went, and he promised to finish it by our next meeting.

It was moved and seconded that Dr. Troutt have further time to finish up his paper on Thoracentesis.

Dr. Pinner read a paper on Diseases of the Skin, in which he acquitted himself with honor.

It was moved and seconded that Dr. Pinner's paper be referred to the Publishing Committee, with request to publish. Carried.

Dr. P. Prichard read a very lengthy paper on Diseases of the Eye (Trichiasis). He made it very interesting, and gave his mode of operation, etc.

It was moved and seconded that Dr. Prichard's paper be referred to the Publishing Committee, with request to publish.

Dr. J. R. Troutt then proposed to spend some time upon the medical topics of the day.

Dr. G. W. Irvin being the oldest practitioner present, and a man of many years' experience, was called upon to address the people and the members present upon the subject of Cholera, in which he had had a great deal of experience, and which disease was at the time visiting our river towns and being spread into the adjacent counties, etc.

Dr. Irvin's remarks were all confined to the point in purpose, interesting, and weighty.

Dr. Irvin was followed by different members of the Society, during a lengthy and lively discussion.

The question was then taken up as to where the next quarterly meeting should be held. It was mutually agreed to meet at Benton, on the first Friday in October, 1873, at 10 A. M.

The President made the following appointments: Dr. Troutt continue Surgery; Dr. Franklin, Meningitis; Dr. Gilbert continue Malaria; Dr. Pinner, Chronic Enlargement of the Spleen; Dr. Smith, Utero-Abdominal Pregnancy and Capillary Bronchitis; Dr. Henson, Pleuritis.

Dr. J. R. Troutt offered the following resolution:

Resolved, That we, the members of this Society, memorialize the next Legislature to pass the Dissection Bill. Carried.

The sessions were harmonious, pleasant, and efficient, indeed. Never has this Society had a more profitable meeting. Papers of interest and value were read, and there was nothing to mar the peace, pleasure and profit of the Society.

Motion by Dr. D. G. Smith, and seconded, that we extend to the proprietor of the house in which the Society met, and to the citizens of Calvert City, our thanks for the use of the house and their hospitality to us.

Motion and seconded to adjourn, to meet in Benton on the first Friday in October, 1873, at 10 A. M.

P. T. Henson, M. D., Rec. Sec.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---Hor.

Practical Formulæ for Making Mineral Waters. By R. Rother.

The preparation of mineral waters has become a recognized feature in the routine of pharmacy. The mineral-water trade is now an important commercial branch of the business, so thoroughly engrafted that it is not considered creditable to a first-class pharmacy which has not all the waters constantly on

draught the year round. The methods of manufacture have been greatly simplified, so that nearly all respectable pharmacists feel a particular pride in the circumstance that the artificial mineral waters they keep on draught have been prepared in their own establishment. The notion of extreme, almost analytical, accuracy in their production, has been abandoned as impracticable and useless, which only tended to favor the traffic in perfectly abominable and outrageously misrepresented concoctions of ignorant impostors, who manufacture the mixed chemicals at wholesale. But, thanks to the enlightened character of the Profession, the millennium of these swindlers has nearly passed.

The methods of preparing the waters by the more recent change are, however, in strict conformity with the analyses, only that unimportant and useless ingredients have been dropped, and the proportions of others brought into more practical limits, without, however, losing sight of the fact that the artificial product must be a practically accurate imitation of the natural water; that it must be based upon a legitimate modification, or scientifically improved interpretation of the original analyses, a wanton violation of which should never be permitted.

Experience has shown that the iron in all waters, excepting Pyrmont, had to be abandoned, on account of objections the consuming public entertained against the ferruginous flavor; and since the waters are mostly used as a pleasant beverage, and always not as medicine, it was, therefore, highly expedient to conform with the public opinion. On practical grounds, it was also found proper to exclude silicic oxide from the waters entirely. No foreign ingredients should be introduced not indicated by the analysis; and therefore organic acids for keeping iron in solution should not be used. Pyrmont is the only water which requires this metal, and in that particular instance it ought always to be introduced into the air-free fountain, which is accomplished readily by first charging with a pressure of about twenty pounds, reöpening the fountain, and after add-

ing the iron, preferably in the condition of ferrous sulphate, charging with any desirable pressure, although highly charged waters are always preferred.

The quantities in the formulæ are given in avoirdupois ounces, quarters, eighths, and sixteenths, and the processes are so constructed that no solution need be kept on hand, except the concentrated chloride of calcium and chloride of magnesium solutions. The simple methods and numbers indicating the quantities admit of rapid extemporaneous processes, and the formulæ are worked out for twelve-gallon fountains, which readily accommodate 100 pints of the finished water.

The application of pure concentrated solutions of calcium and magnesium chlorides can not be too strongly recommended in preference to the dry fused material as found in the market. Aside from indefinite composition, owing to their strongly hygroscopic disposition, the fused form of these salts is extremely inconvenient for ready manipulation. Moreover, their market price is disproportionately high compared with the product obtained in the form of concentrated solutions. A large quantity made at one operation will suffice even for a great demand during the whole season. The advantage of the liquid form infinitely compensates every disadvantage which the relatively easy process of the manufacture may possess, the most objectionable feature of which consists in assaying the product. But a direct analytic assay is by no means absolutely required, as the strength of the solutions can be quite as accurately found by their specific gravity. By the help of the specific-gravity bottle we are enabled to graduate the solutions with ease and precision. After the excess of lime has subsided from the crude solution, the clear liquid is decanted, filtered, and deodorized. The specific gravity is now determined and the solution evaporated or diluted to a volume or weight which bears a simple ratio to the salt it contains. It is more convenient to graduate it by volume, but more accurate to adjust it by weight. The magnesium chloride solution is treated in a similar manner.

According to Gerlach the specific gravity of a solution of

calcium chloride containing 40 per cent. by weight, is 1,40330; 37 per cent., 1.33790; 35 per cent., 1.34430; 33 per cent., 1.32174; 30 per cent., 1.28789; 25 per cent., 1.23365; and 20 per cent., 1.1822; and of magnesium chloride a solution containing 35 per cent., is 1.33397; 33 per cent., 1.31213; 32 per cent., 1.30121; 30 per cent., 1.27937; 25 per cent., 1.22737; and 20 per cent., 1.17800. Ordinary commercial chlorhydric acid yields on an average a solution of calcium chloride of the specific gravity 1.3185 without evaporation; containing therefore nearly 33 per cent. of anhydrous salt. One pint of the solution will then weigh 9613.4472 grains, and represent 3172.-4376 grains, or $7\frac{1}{4}$ ounces avoird., anhydrous, calcium chloride. Hence it requires but little evaporation to contain half an avoird. ounce in the fluid ounce.

KISSINGEN (RAKOCZY).

Take of potassium bicarbonate cryst., $\frac{5}{8}$ oz.; sodium, $2\frac{3}{4}$ oz.; magnesium sulphate cryst., $3\frac{5}{8}$ oz.; sodium chloride (pure, $8\frac{1}{2}$ oz.; calcium chloride (anhydrous), $2\frac{3}{4}$ oz.; water sufficient.

Pulverize the potassium bicarbonate in a suitable mortar, add the sodium bicarbonate and magnesium sulphate and triturate the mixture after the addition of a pint of water until the potassium and magnesium salts are dissolved. Pour the magma into a No. 50 hair sieve, firmly supported on a funnel inserted in the mouth of an appropriate bottle, and wash it through with another pint of water gradually added while constantly stirring with the pestle. Place the sodium chloride in the mortar, add one and a half pints of water, and stir until solution is nearly completed. Then pour the mixture also through the sieve, and follow with the calcium chloride first dissolved in a few fluid ounces of water, carefully washing down any remaining salt, until the whole mixture is brought to the measure of 4 pints. Shake this well, rinse it thoroughly into a fountain containing 12 gallons of water, and impregnate it with carbonic acid, preferably under a high pressure. It must be observed that the calcium chloride should be added last, dissolved in the smallest

amount of the available water, because an undesirable effervescence of carbonic acid takes place if the first liquid is not properly diluted before its addition. Should the operator desire the ferrated water, a light charge of about 20 pounds is first put on, so as to free the water from air; the fountain is then reöpened, and after the introduction of $\frac{1}{8}$ of an ounce avoird. of crystalized ferrous sulphate, again closed and the charge finished as before.

CONGRESS.

Take of potassium bicarbonate cryst., $\frac{3}{4}$ oz.; sodium bicarbonate, $5\frac{3}{8}$ oz.; magnesium sulphate cryst., $3\frac{3}{4}$ oz.; sodium chloride (pure), $2\frac{3}{4}$ oz.; calcium chloride (anhydrous), $3\frac{5}{8}$ oz.; water sufficient.

Dissolve the calcium chloride and magnesium sulphate each in 12 fluid ounces of water. Mix the solutions, and after ten or fifteen minutes strain the liquid through muslin with thorough pressure. Powder the potassium bicarbonate by trituration in a mortar, add the sodium chloride and bicarbonate, mix the whole with a pint of water, constantly stirring, and pour the magma through a No. 50 hair sieve, following with another pint of water, then with the calcium and magnesium solution first obtained, and finally with more water, until the united liquids measure 4 pints. Shake the mixture, pour it into a fountain containing 12 gallons of water, and charge with the highest desirable pressure. Or when magnesium chloride can be had, then take of calcium chloride (anhydrous) 2 ounces, magnesium chloride (anhydrous) $1\frac{1}{2}$ ounces. Dissolve the salts in a pint of water and mix the solution with the other ingredients, as before, completing the water in the manner directed.

VICHY (GRAND GRILLE).

Take of potassium bicarbonate cryst., $\frac{5}{8}$ oz.; sodium bicarbonate, 10 oz.; sodium phosphate cryst., $\frac{1}{2}$ oz.; magnesium sulphate cryst., $1\frac{1}{8}$ oz.; sodium chloride (pure), $\frac{1}{4}$ oz.; calcium chloride (anhydrous), $\frac{5}{8}$ oz.; water sufficient.

Rub the sodium phosphate and potassium bicarbonate to-

gether in a convenient mortar, add the sodium chloride, magnesium sulphate, and sodium bicarbonate, stir the mixture with 2 pints of water, pour the magma into a No 50 hair sieve, and rub it through with the aid of more water. Dissolve the calcium chloride in 4 fluid ounces of water, pour the solution through the sieve, and add sufficient water if necessary to make the whole liquid measure 4 pints. Shake it well, then wash it perfectly into a fountain containing 12 gallons of water, and apply the requisite high pressure of carbonic acid gas.

(SELTERS.)

Take of sodium bicarbonate, $3\frac{7}{8}$ oz.; sodium chloride (pure), $2\frac{7}{8}$ oz.; calcium chloride, (anhydrous), $1\frac{1}{8}$ oz.; magnesium sulphate (cryst.), $1\frac{3}{8}$ oz.; water sufficient.

Dissolve the calcium chloride and magnesium sulphate each in 4 fluid ounces of water, mix the solution, let it stand ten or fifteen minutes, and strain through muslin with pressure. Mix the sodium chloride and carbonate with a pint of water, pour the mixture through a No. 50 hair sieve, follow with the calcium and magnesium chloride solution, and then with water, until the whole measures 4 pints. Shake up the mixture, pour it into a fountain containing 12 gallons of water and charge with the requisite pressure of carbonic acid. If the magnesium chloride is used, then take of calcium chloride (anhydrous) $\frac{1}{2}$ ounce, magnesium chloride (anhydrous) $\frac{1}{2}$ ounce. Dissolve the two chlorides in 8 fluid ounces of water, and add the solution through the sieve to the other materials, completing the process precisely as before.

BITTER WATER (FRIEDRICHSHALL).

Take of sodium bicarbonate, $\frac{7}{8}$ oz.; sodium sulphate cryst., $1\frac{1}{4}$ oz.; potassium sulphate, $\frac{3}{8}$ oz.; magnesium sulphate cryst., 20 oz.; sodium chloride (pure), $10\frac{1}{4}$ oz.; calcium chloride (anhydrous), 1 oz.; water sufficient.

Mix the sodium and potassium sulphates by rubbing them together in a mortar. Add the magnesium sulphate with 3 pints of water and stir until dissolved. Introduce the sodium

chloride and carbonate, continue the stirring a few minutes, and pour the mixture into a No. 50 sieve, dissolve the calcium chloride in half a pint of water, add it to the other mixture through the sieve, and follow with water if necessary to measure 4 pints, or until the salt is well washed down. Shake the liquid, pour it into a fountain containing 12 gallons of water, and charge it with a moderate pressure.

PYRMONT (TRIKNQUELLE).

Take of calcium chloride (anhydrous), $2\frac{1}{2}$ oz.; sodium carbonate (cryst.), $3\frac{1}{2}$ oz.; sodium sulphate (cryst.), $3\frac{1}{8}$ oz.; magnesium sulphate (cryst.), $1\frac{7}{8}$ oz.; ferrous sulphate (cryst.), 3-16 oz.; water sufficient.

Dissolve the calcium chloride in half a pint of water, and the sodium sulphate and carbonate together in one pint of water, with heat; filter the solution, and while yet hot, add to it the solution of calcium chloride. After ten or fifteen minutes the precipitate will have contracted to a heavy powder at the bottom of the bottle. The supernatant liquid is then decanted without losing any of the precipitate. To the sediment then add the magnesium sulphate, shake thoroughly and rinse it well into a fountain containing nearly $12\frac{1}{2}$ gallons of water. Charge with a pressure of about 20 pounds, reöpen the fountain, throw in the ferrous sulphate, coarsely powdered, and finish the charge with a high pressure.

If the residuary calcium sulphate resulting as a waste in several of the formulæ is preserved and dried, the process, with its use, may be modified as follows:

Take of magnesium sulphate (cryst.), $1\frac{7}{8}$ oz.; calcium carbonate (precipitated), $1\frac{1}{4}$ oz.; sodium chloride (pure), $\frac{1}{4}$ oz.; calcium sulphate (dry), $1\frac{3}{4}$ oz.; ferrous sulphate (cryst.), 3-16 oz.

Mix all but the ferrous sulphate with a pint of water, pour the magma through a No. 50 sieve, wash it into a fountain containing about $12\frac{3}{8}$ gallons of water, and complete the process with the introduction of ferrous sulphate and impregnation with high pressure, as before.—*Chicago Pharmacist.*

Phenol Sodique.—This preparation of carbolic acid is deservedly popular with the medical and dental professions. Dr. E. Wildman gives the following formula in the "Dental Times" for its preparation: Take of carbolic acid, in crystals, 188 grs.; caustic soda, 31 grs.; pure water, 4 fluid oz. Mix.

The carbolic acid should be free from offensive odor, such as is prepared for medicinal purposes. When first mixed it is nearly colorless, but in time assumes a wine color; does not deposit any tarry residue, too often found in the commercial article. This formula is the result of numerous experiments, and gives an article that will compare favorably with the best French phénol sodique.—*Druggists' Circular.*

M. Delioux's Mercurial Collodion for the Prevention of Pitting by Small-pox.—Take of collodion, 30 gram. (460 gr.); Venice turpentine, 1.50 gram. (23 gr.); corrosive sublimate, 0.30 gram. (4.6 gr.) Mix.

When the subject is young, less of the sublimate to be used —0.20 gram. for from 10 to 15, less for under ten years of age. When the disease is very violent in the adult, or the application be made late, 0.40 gram. may be used. The collodion is kept in a bottle with a mouth sufficiently large to allow a camel's hair brush the size of the finger to be used, and is to be freely applied to the whole surface of the face, and a second coat is to be given where the movements of the mouth, eyes, etc., cause the first to crack, and also where the pock is apt to be most thickly produced. If the contraction of the collodion gives pain, a few drops of castor oil should be added to it.—*Rev. de Therap. Medico-Chirurg.*

Hygienic Use of Tea.—Dr. Adam Smith, in a paper read before the London Society of Arts, recommends the use of tea in the following cases: After a full meal, when the system is oppressed; for the corpulent and the old; for hot climates, and especially for those who, living there, eat freely, or drink milk or alcohol; in cases of suspended animation; for soldiers who, in time of peace, take too much food in relation to the waste

proceeding in the body; for soldiers and others marching in hot climates, for then, by promoting evaporation and cooling the body, it prevents in a degree the effects of too much food, as of too great heat!!!—*Boston Journal Chemistry.*

Powder for excessive perspiration of the hands and feet: Carbolic acid, 1 part; burnt alum 4 parts; starch 200 parts; French chalk, 50 parts; oil of lemon, 2 parts. Make a powder, to be applied to the hands and feet, or to be sprinkled inside of gloves or stockings.—*Pharmaceutishe Centralhalle.*

Of the many chewers of tobacco in these days, there must be many who wish to relinquish the habit. It is said that a little coarsely cut gentian root, well masticated (the saliva being swallowed), taken after every meal, will soon take away all desire for the chewing of tobacco.—*Druggists' Circular.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Conium in the Treatment of Insanity.—Dr. Daniel Kitchen, assistant physician to the New York State Lunatic Asylum, states that during the past eighteen months he has been pursuing special investigations with conium in the treatment of insanity, aided by the thermometer and sphygmograph. The preparations used were the succus conii, an imported article prepared by Ransom & Co., and the fluid extract, made by Squibb, of Brooklyn. The dose of the succus which will produce the physiological action is from a drachm to an ounce, according to the motor activity of the patient; men require larger doses than women. The dose of the fluid extract is from twenty minims to a drachm; twenty minims of the extract prepared by Squibb is equal to about a drachm of the succus conii. Some preliminary experiments upon a healty person showed

that in these doses conium lowers both the temperature and the pulse without any apparent effect on the respiration. In the investigations carried on in the State Lunatic Asylum its effects were carefully observed in one hundred and fifty different patients, embracing cases of mania, melancholia, and hysteria. The following physiological effects are observed in from ten to twenty-five minutes after a full dose is taken :—1st. Suffusion of the eyes and injection of the conjunctiva; 2d. Giddiness and sensation of weight along the orbit; 3d, dimness of vision and dilatation of the pupils; 4th, inability to sustain any mental effort; 5th, languor, muscular weakness, with a strong desire to assume a recumbent posture; 6, a dragging sensation in the limbs; 7th, pulse and temperature lowered; 8th, gentle glow of perspiration over the whole body; 9th, usually in half an hour the patient is asleep. It appears that upon the motor centres in the brain Dr. Kitchen has failed to discover any direct hypnotic effect, as in chloral hydrate, yet sleep follows very rapidly, as it almost always follows muscular relaxation, and in a natural way. When large doses are given the action upon the muscles is so quick that the patient is scarcely able to prevent himself from falling by supporting himself with his hands. Its effect is the counterpart of that of strychnine, quieting and conserving the nervous energy, and leaving the muscles to sink into rest. Dr. Kitchen has frequently observed the strong and powerful man, in mania and melancholia, after taking a full dose become quiet, and this state is soon followed by prolonged sleep, from which he awakes much refreshed. Full doses, however, must be given, and the preparation must be good. Dr. Kitchen administered it in eleven cases of epilepsy of long standing, complicated with dementia. The fits were lessened somewhat in number and severity, though none were entirely relieved. In several cases of facial erysipelas with great restlessness, while bromide of potassium proved of little use, conium relieved pain, and sleep followed. According to Professor Mitchell, the addition of half a grain of blue pill has a most salutary effect. A few cases of sciatica and of migraine depend-

ent on dysmenorrhœa received great relief from conium. In hysteria with epileptiform convulsions, conium given in full and repeated doses afforded much benefit. An important point in respect to conium is, that if it does no good, it does little or no harm, as it has but little appreciable effect on any of the secretions; and as it does not act on the brain, it may be safely given in all febrile cases. Dr. Kitchen gives an appendix of twelve cases, showing its effects in various forms of disease.—*American Journal of Insanity.*

A New Method for Healing Ulcers.—Dr. Nussbaum claims to have successfully treated upwards of sixty cases of chronic, extensive, and otherwise intractable leg-ulcers, by the following simple procedure. It is at least worthy of a trial. The patient is first narcotised, and then around the ulcer of the leg or foot, a finger's breadth from its margin, an incision extending down to the fascia is made; numerous blood vessels are divided, and a severe hæmorrhage ensues unless a fine pledget of lint be packed into the cut and the entire ulcer strongly compressed. The packing with lint is also necessary to prevent union of the cut edges by the following day. Upon the second day the bandage and lint are removed; from then until a cure is effected, a simple water dressing is applied.

The author states that an astonishing change can be seen, even in the first twenty-four hours; the ulcer, which yesterday threw off quarts of thin, offensive ichorous pus, furnishes today not more than a tablespoonful of thick, non-offensive, healthy pus. The old ulcer becomes rapidly smaller, healing from the margin towards the centre, and is healed in a short time, but the cut is changed into a broad circular sore, which also speedily cicatrises.

The great diminution of the secretion, and other favorable changes occurring in the ulcer, find an explanation from the fact that the circumcision has divided dozens of large, abnormally widened blood vessels. Time is thus given for the lessened nutritive material, which previously was carried off by

the excessive secretion, to be transformed into cells and connective tissue; in other words, granulations are formed, which fill up and heal the deep ulcer.

Without claiming this as a radical method, the author assures us that the cure is much more rapid, and the cicatrix becomes more elastic and resisting, than in the ordinary means applied, which usually require so much time that the patients depart with half-cured ulcers, soon to find themselves in their previous deplorable condition.—*Philadelphia Med. Times.*

Aborting Typhoid Fever.—A writer in one of our homœopathic exchanges records an exploit in this wise: "I just aborted a case of typhoid fever with Rhus 103 m. Down with raging fever, loaded tongue, muscular pains, etc., on Saturday last, (15th inst.,) two doses Rhus, lots of sach; up and dressed to-day (20th), five days instead of five weeks."—*Pacific Medical and Surg. Jour.*

Turpentine Soap.—Take powdered Castile soap and oil of turpentine, of each six parts; carbonate of potassa, one part. Beat together in a uniform mass, to form an ointment. This is the External Balsam of Life of the Germans.—*Amer. Journal Pharm.*

Spirit of Ants.—The German Pharmacopœia still contains a formula for the *Spiritus Formicarum*, made by macerating ten parts of recently collected ants, with fifteen parts each of alcohol and water, and distilling.—*Ex.*

Ice in the Treatment of Facial Neuralgia.—M. Wenteritz reports a case of very intense facial neuralgia which resisted every mode of treatment, that finally yielded to the application of ice, along the affected side of the face, laid on at periods of five minutes. The pain disappeared in twelve hours, and after an interval, now of ten months, has not returned.—*Med. Press.*

Corn-cobs for Piles.—The "Indiana Journal of Medicine" describes the case of a man who fixed a corn-cob on a wooden handle and introduced it into the rectum "to cure piles." The

handle broke, the man died, the cob was found in the colon, and the evidences of general peritonitis were disclosed. He had broken the handle of the instrument in raking down the tumors!—*Ex.*

Phosphorus Mixture.—A very pleasant preparation of phosphorus, in the fluid form: Dissolve a grain of phosphorus in six drachms of chloroform, and add two ounces of good glycerine, and shake well. The glycerine forms a permanent union with chloroform, which dilution with water does not separate. Dose, a teaspoonful three times a day.

Hypophosphorus acid has not received that attention its merits are entitled to. As a remedial agent of the phosphorus family, it is one of the most reliable. The hypophosphorus acid, in solution, enters the economy in combination with some of the fatty acids and glycerine combined, and forms a true nerve food and restorative. For children it is of decided advantage. The usual dose is from ten drops to ℥ss., with an equal quantity of glycerine in half to an ounce of some aromatic water. —*Medical Archiv.*

Treatment of Chloroform Narcosis by Ice in the Rectum.—Dr. Baillee thinks there is no readier or more effectual mode of combating the narcosis of chloroform than that of introducing a small piece of ice into the retum. But little force is required to pass it through the anus; it melts immediately, and causes by its presence a deep reflex inspiration, which leads to respiratory movement and reëstablishment of the cardiac function. The method is also recommended to be pursued in the treatment of apparent death in the newly-born.—*Bul. Gen. de Therp.—Med. Record.*

The First Operation of Lithotripsy in America.—Dr. Alban Goldsmith, the first assistant to Dr. McDowell, in many of his ovariotomies, made the first operation of lithotripsy ever performed in Kentucky or the United States. It occurred in 1829. —*Ex.*

A Test Banquet.—A *most* singular banquet has just taken place in Paris. M. Decroire invited several of his friends and a small company of scientific men to dine upon the flesh of horses which had died from the glanders; of cows the victims of the rinderpest; and of an ass just killed for hydrophobia. It was a "test banquet"—one that proved the devotion of each man there to science, in that he was willing to risk his life to demonstrate, in the most practical manner, that the flesh of animals is not affected as human food by even the worst diseases. *Lancet and Observer.*

The First English Obstetrical Writer.—The first English midwife who appeared as an obstetrical writer was Mrs. Jane Sharp, of London, whose work was published in 1671, under the name of "Midwives' Book"—a duodecimo of 418 pages.—*Ex.*

How to Swallow a Pill.—The "Chicago Medical Times" is responsible for the following: "Put the pill under the tongue and behind the teeth, and let the patient immediately take a large swallow of water, and he will neither feel the pill nor taste it. In fact, he can not tell where it has gone, and I have seen them look about the floor to see if they had not dropped it."

Belladonna to Check Sweating.—Dr. Sydney Ringer finds that belladonna or atropia can prevent or check sweating, whether this be due to external warmth or to disease. When it is the result of disease, the subcutaneous injection of 1-300th of a grain of atropia is generally sufficient to arrest it for one night. The dose does not dilate the pupils, but it produces dryness of the fauces. Stramonium has a similar effect. Belladonna also arrests the secretion of the mammary glands.—*Western Lancet.*

Excision of the Ankle-Joint.—The first English surgeon who performed the difficult operation of excision of the ankle-joint was Henry Hancock, senior surgeon of Charing Cross Hospital, and President of the Royal College of Surgeons, London.—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

A Treatise on the Principles and Practice of Medicine. By Austin Flint, M. D., Professor of the Principles and Practice of Medicine and of Clinical Medicine in Bellevue College Hospital, New York. Fourth Edition, carefully revised. Henry C. Lea, 1873.

The friends of Dr. Flint and the true students of medicine will be especially gratified, that a new edition of this work has been issued; as the previous edition of it induced many to believe that the distinguished author was not fully abreast of the rapid current of modern medical science; and however greatly unjust such a belief would be, it is undeniable, that there has been (so far as the former edition of his Practice is to be taken in evidence) ample reason for its existence. Those familiar with Dr. Flint's record and just claims as an author, have, of course, known better, and those understanding the impossibility of issuing a new edition of a work until the old edition is exhausted, have made due allowance for Dr. Flint's unavoidable annoyance, under misconstruction and unfair appreciation; but great numbers, ignorant in regard to these subjects, have judged of the author by the old edition, and such judgment has, of course, been injurious and incorrect. The portion of the work devoted to diseases of the nervous system has been much changed, amplified, and improved.

It is to be regretted that the distinguished author has made his work so very imperfect in regard to the great subject of inflammation. The whole matter is disposed of in the brief space of one page and a half. In this space nothing whatever is said in regard to the details of the inflammatory process. The reader has presented to him the old and valueless description of obsolete authorities as to the phenomena of pain, heat, redness, and swelling; the author failing to present the well-known fact, that inflammation may occur without the manifestation of these phenomena. The chief facts detailed by German authorities, in

regard to cell proliferation in connection with inflammation, and all of the well-established facts set forth by Cohnheim, Recklinhausen, and others, and so largely accepted by great pathologists, are not even mentioned. The reader is referred for information on these subjects "to works on surgical pathology"; as though inflammation in all of its details was not a subject of transcendent interest to the medical practitioner. That one should be requested by an author on the Practice of Medicine to study the details of the inflammatory processes in pleuritis, pneumonitis, meningitis, etc., by consulting works on surgical pathology, is certainly most unique and injurious; most unjust to the great department of medical science, which the author essays himself to teach. Again, where one is both a didactic and clinical teacher, the reader expects to know and has a right to know the individual views of this teacher, when as an author he treats of the most important subject in medical science. Where the classic schools of medicine in classic countries teach irreconcilable views in regard to the great questions of inflammation, a teacher and author as justly prominent as is Dr. Flint, does himself and his medical countrymen great injustice, by evading this whole subject. A paragraph upon this matter would have been sufficient to indicate to the reader what are the convictions of the author, in regard to the vast mass of details presented to the scientific public in connection with this great subject. Dr. Flint, in most other portions of his valuable work, is evidently a careful student of all that is presented in the great field of contemporaneous medical literature; the proofs of this fact are abundant, and when it is of course understood, that he must have studied the great question of inflammation with special care, those who desire to know his opinions as those of a skilled and distinguished teacher, can not but feel inexpressible surprise and annoyance when they are referred in this connection to works on surgical pathology.

The portions of the work devoted to thoracic diseases and to diseases of the nervous system are particularly excellent. It would be a source of pleasure to present an analytical review of

the whole volume, but however complimentary the greater portion of such a review would be, it is confessedly unnecessary to notice a well-established work which has deservedly and rapidly reached its fourth edition. The medical Public require only to learn the fact that the fourth edition is issued to promptly and generously sustain it. The publisher has issued the work with great care and excellence. He has done also what publishers seldom do; instead of sending a copy of the work issued in almost worthless muslin binding, he has very properly forwarded one of the best leather-bound copies of his edition. An example that all publishers should note and imitate.

A Manual of Histology. By Professor S. Stricker, of Vienna, Austria. American Translation by A. H. Buck, Assistant Aural Surgeon of the New York Eye and Ear Infirmary. New York: Wm. Wood & Co. 1873.

The medical Public have been looking for this inestimable work for many months, and the gratification experienced in its study will fully equal the pleasure anticipated in its examination. Commencing with the cell, all tissues are beautifully analyzed and described. All of the viscera are described and the minutest histological details are carefully described. The time seems to have arrived, when works on anatomy and physiology will no longer contain or can contain even a superficial exhibit of the great science of histology; for it is evident, that histology is now of itself a great study; and the student who expects to be accurately familiar with it must seek his information in classic works devoted exclusively to its demonstration. A recent reviewer of Hamilton's last edition of Surgery was foolish enough to say in objection to it, that it was deficient in its presentation of the great subject of pathology; as though modern pathology could be compressed into any work on practical surgery. How can any one, claiming to be a judge, commit the unpardonable folly of censuring a surgical author for not forcing into a single octavo work on practical surgery, the vast

mass of pathological facts, only to be obtained by the study of such volumes as those written by Paget, Bilroth, Rindfleisch, Heule, Rokitansky, Chomel, and a host of others? One might as well object to the physiology of Marshall, Flint, or Dalton, because, in these, the skeleton is not described, and the muscular attachments wholly omitted. As anatomy has been excluded from works on physiology; as pathology must be excluded comparatively from works on practical surgery; so it seems that the time has arrived for excluding histology from treatises on anatomy or physiology. One has but to examine this massive work (1,000 pages) by Stricker to feel how utterly foolish it would be to attempt to introduce these vast details into any work devoted to other subjects. As a classic guide it is complete; it is in itself a histological library. It is well issued.

REVIEW NOTES.

Mr. Henry C. Lea has issued a fifth edition of Attfield's work on Chemistry. This edition is revised, and is beautifully issued. The same publisher has just issued a beautiful edition of "Kirke's Hand-book of Physiology." It is copied from the eighth enlarged English edition. It is richly illustrated, and is in all respects worthy of the title given to it. The wonderful part of the matter is, that there is no American editor. How this happened, it is impossible to say. Some obscure son of Hermes has lost a glorious opportunity of thus introducing himself to a Public who otherwise would never have heard of him. Every classic English medical work issued in this country is almost invariably used as a literary buoy to sustain some "dead weight" in the shape of an American editor. For the credit of American physicians, it is to be hoped that this parasitic spectacle will now disappear. An acarus attached to the body of an English author can far better be borne by him, than the footnotes attached by an American author to the body of his work. Our American editors of foreign works, if they are not restrained, will force the European world to justly believe, that

American physicians are a body of greedy and horrible parasites. Away with this nuisance. Messrs. D. Appleton & Co. have sent a very handsome little octavo on the Mineral Springs of the United States and Canada, by Dr. Geo. E. Walton, of Cincinnati. This is a most acceptable and valuable volume. It contains, in brief space, a vast amount of important and interesting matter, well arranged and well presented. Nearly every physician needs just such a volume. The Appletons have also sent an octavo volume of two hundred pages prepared by Allan McLane Hamilton, M. D., of New York. The title of this volume is "Clinical Electro-Therapeutics Medical and Surgical." It is intended as a hand-book for physicians in the treatment of nervous and other diseases. It is well illustrated, and is certainly well worthy of study. It is recommended as a concise, brief and clear exposition of this interesting and important branch of practical therapeutics.——The medical colleges of the United States have generally sent their catalogues, for which their respective Deans will please accept thanks.——Dr. T. C. Osborne, of Greensborough, Ala., forwards a copy of his address, delivered by him as President of the Alabama State Medical Society, March, 1872. His subject is medical education, and reform of present grievances connected with it. It is a good paper.———One of the best pamphlets sent to the Press is one by Dr. J. M. Toner, of Washington, D. C. His subject is Free Parks and Camping Grounds, connected with cities directly and remotely, for preventing the terrible slaughter of infants during the hot months of summer. The statistics presented are fearful. One is justified in believing that of the mortality of 500,000 in the United States, *fully one-half* is made up of the death of children under five years of age. The great portion of these sad deaths occur in large cities in summer; and from some form of intestinal diseases caused by city atmospheres. Dr. Toner proposes, for the prevention of this terrible loss, the establishment of Free Parks and Camping Grounds. These can be established judiciously by every city. The proposition is a most important one, and speaks as well for the good

judgment as it does for the philanthropy of this distinguished scientist and benevolent physician. His pamphlet is worthy of general study. The reader will be amply rewarded by sending to Dr. Toner for a copy of it.——Dr. S. C. Chew, of Baltimore, Md., has issued another pamphlet in regard to the medical evidence in the trial of Mrs. Wharton. It is a scathing review of the articles published by Dr. H. C. Wood, Jr., in the "New York Medical Record" and in "Lippincott's Magazine." The pamphlet is very interesting and able.——Dr. Stephen Rogers, of New York, has sent a copy of his monograph on the Influence of Uræmic and Alcoholic poisoning on testamentary capacity. It is, apart from its scientific value, a caustic exposure of some recent rascalities and medical inefficiencies connected with the death of a prominent and wealthy lady of New York.——"How to Prevent Cholera" is the attractive title of a small pamphlet issued by Dr. R. F. Logan, of Shelbyville, Ky. The portion of it devoted to the description of disinfectants and deodorizers is very good; much of what is therein given will be republished, as it is practical and valuable. As to his suggestions for preventing cholera, they are like those of others; no worse and no better; no more true and no more new. One can only exclaim, on reading them, what the lawyer's clerk in the play of Divorce so often ejaculates, as he listens to the lawyer's plans for getting business, "good enough." They will be useful to the author, but certainly not to science. Where one believes that cholera can be contracted by sleeping near a foul pig-stye, and that it can also be imported, his method of preventing the disease must necessarily be of too varied a character for general adoption. The hygienic part of this pamphlet is excellent; the remainder simply saves the brochure from an unpleasant and suggestive tenuity. The author regards as his chief authority Dr. T. S. Bell, of Louisville, Ky. This good, benevolent and harmless old man; this endless newspaper scribbler, who without reputation in the Profession seeks it among the masses; this medical meteor, so frequently blazing across the municipal sky and lapsing invariably into darkness; this scien-

tific rocket going off always with a whiz and alighting, like the rocket stick, unnoticed and in obscurity; this poor, harmless old man Dr. Logan "applauds to the echo." Perhaps the most caustic satire ever uttered against physicians, is that recorded by Dr. Logan, when, in his pamphlet, he states that, in his belief, Dr. Bell knows more of cholera than any physician living. It is not strange indeed, that, with such views, the author's lucubrations in regard to the prevention of cholera are such as they have been described in this notice; "good enough" for business purposes.

MEDICAL NEWS.

'Nulla dies sine linea."

Boylston Medical Prizes.—At the annual meeting of the committee, held June 2, 1873, it was voted that prizes of $150 each be awarded to David F. Lincoln, M. D., of Boston, for a dissertation on "Electro-Therapeutics," and to William C. Dabney, M. D., of Charlottesville, Va., for a dissertation on "The Value of Chemistry to the Medical Practitioner."

The following are the questions proposed for 1874: 1. The Best Methods of Preventing the Development and Spread of Small-pox. The author of a dissertation on this subject, considered worthy of a prize, will be entitled to a premium of $200. 2. The Development and Extension of Malignant Disease. The author of a dissertation on this subject, considered worthy of a prize, will be entitled to a premium of $150.

The following are the subjects proposed for 1875: 1. Original Researches in Medical Science. 2. So-called "Concussion of the Spine." The author of a dissertation considered worthy of a prize, on either of the subjects proposed for 1875, will be entitled to a premium of $150.

Dissertations on these subjects must be transmitted, as above,

on or before the first Wednesday in April, 1874 and 1875, respectively.—*New York Med. Journal.*

Specialties.—Dr. Robert Barnes says: "I have recently been honored by a visit from a lady of typical modern intelligence, who consulted me about a fibroid tumor of the uterus; and, lest I should stray beyond my business, she was careful to tell me that Dr. Brown-Séquard had charge of her nervous system; that Dr. Williams attended to her lungs; that her abdominal organs were entrusted to Sir William Gull; that Mr. Spencer Wells looked after her rectum; and that Dr. Walshe had her heart. If some adventurous doctor should determine to start a new specialty, and open an institution for the treatment of diseases of the umbilicus—the only region which, as my colleague Mr. Simon says, is unappropriated—I think I can promise him more than this patient."—*Lancet.*

Two New Drugs.—From a recent number of the "Zeitschrift des allgeneinen Oesterreichischen Apotheker-Vereines" we learn that two plants which are natives of the Philippine Islands have attracted some attention at the Industrial Exposition at Vienna. One of these is the *Echisis scholaris*, an Apocynaceous plant, the other the *Garcinia mangostana*, one of the Guttiferæ. The Echises is an abundant tree in the province of Ratangar, in the island of Luzon, the bark of which has long been used by the natives, under the name of Dita, as a remedy for all kinds of fevers. G. Gruppe, an apothecary in Manilla, examined the bark, and he obtained from it, after repeated analyses, a very hygroscopic bitter principle, to which he gave the name of Ditain. Professor Dr. Mignel Zina, a Spaniard, and chief physician of the province of Manilla, experimented with it in the hospitals under his care, and found that ditain is not only a perfect substitute for quinine, but also that in its use the frequently unpleasant after-effects of quinine are avoided. It is administered in the same manner and doses as quinine, and is perfectly certain in its effect. It is also remarkably efficient as a tonic. Ditain may be prepared in the

same way as quinine. The bark yields about 2 per cent. of ditain. A single tree yields a large quantity of bark, without its growth being affected. In Manilla 50 kilograms of the bark cost about 10 francs, and probably ditain might be produced at about half the price of quinine. It has been used successfully in Manilla. The product of the second-named plant is an extract prepared from the fruit husks, which were some years ago imported into Europe as a tanning material. The *Garcinia* occurs frequently in Madras, Cochin China, and the Philippines, and had previously been used in medicine as a decoction of the fruit husks, until M. Gruppe introduced the extract which is now used in all hospitals. Numerous experiments have shown that it is a safe, rapid, and thorough remedy for dysentery and chronic diarrhœa, as well as all catarrhal affections of the bladder and urethra.—*London Pharm. Journal.*

Munich has done honor to the memory of its late distinguished citizen, Prof. Liebig, by giving him a public funeral. The ceremony was of the most imposing character, and the followers included civil and military authorities, judges, magistrates, and professors, while the populace turned out *en masse.* —*Ex.*———*The Use of Dry-Powdered Blood.*—Warm blood, taken from the calf or ox, has long been employed in certain parts of Europe, being administered in the early stages of tuberculosis, in chlorosis, and in general debility with anæmia. To overcome the very great repugnance so often manifested for this drink, Dr. De Pascale, of Nice, is in the habit of giving it in the form of powder, in which condition it is nearly tasteless. The blood is dried by means of the water-bath, powdered, and grated through a sieve. The dose is about thirty grains—*Ex.* ———*Senile Virility.*—A recent number of the "France Medical" reports the case of an Arab woman delivered at Constantine of four children at a birth, three of whom were born dead; the father of these children, an Arab named Ahmed ben Mohumed, was seventy years of age.—*Ex.*———*Appointments, Honors, etc.*—Dr. William A. Hammond has resigned his two

professorships in the Bellevue College Hospital. Prof. Hughes Bennett, on account of ill-health, is about to vacate the chair of Physiology in Edinburgh, and already there are a number of candidates in the field. Of these Professor Rutherford has unquestionably high claims, not only as a former assistant of Professor Bennett, but as an able and effective cultivator and expositor of physiological science.—*N. Y. Med. Jour.*———*Inhalations of Oxygen in the Treatment of Hydrophobia*—Laschkewitsch ("Gaz. Med.," Paris, 1872, No. 50) has administered inhalations of oxygen to a peasant, who, ten weeks before, had been bitten by a mad wolf. The tetanic muscular contractions ceased, the cyanosis disappeared, and the exacerbations of violence gave place to a quiet, gentle condition. Notwithstanding the fatal result (due probably to the inattention of the nurses, who discontinued the oxygen inhalations), the author recommends the use of this agent to the attention of the Profession.—*Centralblatt.*———*External Use of Chlorate of Potash in Open Cancers.*—Burrow ("Berl. Kl. Wochenschrift") has tried the effect of sprinkling chlorate of potassa either in powder or crystals on cancerous ulcerations. He concludes, from his still very imperfect observations, that the remedy causes a diminution and shrinkage of the villosities, resorption of neighboring ulcerations, diminution of the secretion, and lessening of pain. Whether a cure can result has not yet been decided.—*Centralblatt.*———*Doctors on a Strike.*—The "Gazette Hebdomadare" mentions a strike of medical practitioners of the Canton of Aargan, Switzerland, on account of the miserably small fees allowed them for visiting the poor. It appears that a physician is entitled to about fifteen cents for visits at a distance of nearly a mile.—*N. Y. Medical Journal.*——— The medical evidence in the Tichborne trial shows the treatment of twenty years ago to be decidedly heroic in character. Bleeding from the arm, the ankle, and the temporal artery, were evidently freely resorted to, and the issue was the most common form of counter-irritation.—*Ex.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

Cure for Quackery.—When the American Medical Association was first organized, it was unquestionably believed that this Body, and the Societies contributory to it, would, as a part of their functions, give a death-blow to quackery in the ranks of the Profession. It is notorious, that in this respect the American Medical Association and the great majority of medical societies, are stupendous failures. The most notorious charlatans in these bodies fill the highest offices, and as a rule (there are honorable exceptions) these societies are cowardly, and practically impotent in suppressing quackery, and in punishing those who disgrace themselves and their profession by practicing it. There is but one remedy; it is a radical one; powerful; entirely efficient, if it be used. This is the Medical Press. Unfortunately, most of these Presses are afraid to deal with this stupendous evil, and are as cowardly as most medical societies. Those Presses that use every means to suppress charlatanism are abused and maligned, and have the most despicable motives attributed to them. These silly traducers are weak enough to believe that earnest men can be diverted or controlled in their purpose by detraction and abuse. It remains to be seen who are the strongest, the medical quacks and the scamps sustaining them, or the Medical Press. The latter certainly will never yield; and the charlatans of the medical profession will have to purchase their ill-gotten gains at ruinous rates, when for every dishonest device undertaken, they are publicly scarrified and cauterized; held up to the derision and contempt of honest men. They may squirm and traduce and villify and undermine as much as they please, they will certainly and constantly be punished by the Press; for this is now the only CURE FOR QUACKERY.

Medical Canushers.—A distinguished lady recently related

the following anecdote, which is so appropriate in connection with scenes just enacted in this city, that it must be recorded. A pretentious and insufficiently educated individual being a hearer of some elaborate and antagonistic criticisms on the scientific lines of a beautiful bust, at once repudiated all the opinions offered, and, with autocratic dogmatism, exclaimed that he could settle all points in dispute. When asked why he could do this, he replied, "Because I am a canusher." (A connoisseur).

A poor girl (of this city), in the seventh month of gestation, got rid of her child in some way, and it was found in a privy-vault. An inquest was held and the girl arrested. The Coroner desired to remove her from her room to the jail hospital. He requested a physician to examine her and learn if the after-birth had been removed. This was done, and the Coroner was informed that the after-birth had been passed. The examining physician advised that the girl should not be removed; saying, very properly, at the same time, that if this was done by placing the girl on a mattress and not allowing her to use any exertion, the removal might, he thought, be safely effected. The girl would not allow herself to be thus removed, but walked to the express wagon; was driven three squares and placed in a comfortable bed. In thirty hours she died; the jail physician in the meanwhile having examined her, found "the neck of the womb contracted and bleeding freely." The girl is buried. The police making the arrest are tried. Medical witnesses are examined. They all think the girl's death was due to her removal. The policemen, by an amazingly logical sequence, are forthwith discharged. The girl's body is exhumed. A post-mortem is made. The uterus is found *inverted and the vagina much torn and bruised.* The cause of death is clearly revealed for the first time. All parties are exonerated. The accused are all happy. The only parties left miserable are the medical canushers, whose opinions as to the cause of death have become like Continental currency; vastly amusing and wholly valueless. Moral: Always to remember the mortifying story of

this inverted uterus, if the law ever in such a case requires the services of a MEDICAL CANUSHER.

EDITORIAL BREVITIES.

Early in September, Professor G. W. Bayless, of this city, was taken suddenly ill at Rockcastle Springs and died in a few hours. He was buried here with imposing ceremonies. The deceased filled many positions of honor and distinction, and was always zealous and faithful in the discharge of his duties. His loss is deeply lamented by a large circle of warm friends and ardent admirers.———Dr. Richard Cowling has been elected to fill the chair of "Principles and Practice of Surgery" made vacant by the death of Dr. Bayless, though the title of the chair has been changed, for reasons very unsatisfactory to the medical public, and for motives seriously questioned by them. Professor Cowling will, of course, discharge the duties of his predecessor. With great injustice to the incumbent, the title of this chair has been changed to that of "Surgical Pathology and Operative Surgery." When surgical pathology embodies, in effect, "The Principles of Surgery," and "Operative Surgery" is virtually "The Practice of Surgery," the change in the title of this chair is most unwise, if not silly, on the part of the administrative officials of this College, and is most unjust to the successor of Professor Bayless. If Professor Cowling discharges the duties of the old chair, as he must, it is unfair and reprehensible to deprive him of the title properly and heretofore attached to it. The successor of Dr. Bayless is well qualified for his present work, and it is believed that he will discharge it with energy and fidelity.——— Many new societies and some of the older bodies wishing good constitutions, are recommended to send for a copy of the Constitution of the Little Rock Society, Arkansas. It is the best which has so far been published.———The Louisville Medical College commences its regular session with 192 students.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. NOVEMBER, 1873. No. 5.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—"A CRITICAL REVIEW OF CHLORAL," (REVUE CRITIQUE DU CHLORAL). By Dr. ERNEST LABBÉ; Published in THE "Archives Générales de Medicine." [Translated from the French by W. H. BAILEY, M. D., Charleston, S. C.]

A few years ago the substance whose history we propose sketching was known only to chemists. Discovered in 1832 by Liebig, investigated at a later period by Dumas, who first determined its formula, it remained for thirty-seven years in the domain of pure science, buried in that immense storehouse of organic compounds, which, from time to time, furnishes the physician with such valuable agents. No therapeutical application of chloral was then known; it had but an abstract importance, augmented perhaps by the support of the distinguished names connected with its discovery. Now it has gained notoriety, the art of therapeutics claims it, and it is lauded by certain enthusiasts as a marvellous acquisition. But whatever may be its future, and without concerning ourselves with

a premature judgment of it, we shall study the origin and chemical properties of chloral, its physiological action, and its most clearly proved therapeutical applications.

A—CHEMISTRY OF CHLORAL.

The chemical properties of chloral have long been thoroughly determined; nothing has recently been added to the manner of investigating them except some minor improvements. The mode of preparation has been revised, and efforts have been directed to the production in a state of absolute purity of this reägent, now become a medicine which ceases to be active, when it is impure.

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The name of *chloral* indicates its derivation from chlorine and alcohol; these two bodies, in reäcting on each other, give rise to several products, among which is chloral. Two processes for bringing about this reäction are known, that of Liebig and Dumas, and a second proposed by Staedeler. In the first, absolute alcohol is treated directly with chlorine gas, and at the end of a certain time an oleaginous liquid is obtained, which is collected for redistillation over sulphuric acid several times in succession. The second process, that of Staedeler, is less employed—it is very complex.

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Chloral obtained by either of these processes is a colorless liquid of a penetrating, disagreeable and suffocating odor, like chloroform extremely volatile, and of the density of 1.518. Water, alcohol and ether dissolve it with elevation of temperature. Its formula is (according to Dumas) $C^4\ H^4\ Cl^3\ O$; according to Gerhardt, $C^4\ Cl^3\ O^2\ H$. The latter, it will be perceived, is the formula of aldehyde, $C^4\ H^4\ O^2$, with this difference, that three atoms of chlorine replace three of hydrogen, whence the name of trichlorated aldehyde formerly given to chloral. Its avidity for water is very remarkable; a combination of the two bodies takes place, from which results hydrated chloral, or the hydrate of chloral. This latter substance will occupy our attention exclusively in this article.

* * * * * * * *

Hydrate of chloral is a white substance, in needle-shaped crystals, of an acrid and pungent taste when swallowed, and a peculiar odor, somewhat resembling that of an over-ripe melon. It is volatile like camphor (Dumas), in consequence of which the sides of bottles containing it are covered with numerous crystals. Its solubility in water is very great, and the act of solution is accompanied with evolution of heat. The aqueous solution readily undergoes change, algae being, after a time, developed in it; whence the indication, that when needed in practice, it should not be prepared long beforehand. Ether dissolves hydrate of chloral, and Richardson* has availed himself of this property, to administer the hydrate by inhalation.

Other solvents of chloral are the sulphuret of carbon, alcohol, fats, etc. Its reäction is neutral; it has no action on the salts of silver, and, like glucose and chloroform, reduces Trommer's cupro-potassic solution.† Its formula is C^4 H Cl^3 O^2, 2 HO, and it is composed according to Dumas of one volume of anhydrous chloral and one volume of the vapor of water. Personne gives the proportions as follows: Anhydrous chloral, 90 parts; water, 10 parts = 100.

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I have not as yet spoken of the interesting fact, peculiar to chloral, whatever its form, which has become the starting point for therapeutical experiment; I allude to its transformation into chloroform under the influence of alkalies. Given the two formulæ, C^4 Cl^3 O^2 H (chloral), and C^2 Cl^3 H (chloroform), it is easy to see that the first contains the second, or, in other words, that chloral may, by decomposition, give rise to chloroform. This fact is easily verified; if we drop into a strong alkaline liquid a pinch of powdered chloral, the odor of chloroform becomes almost immediately evident, and we see at the bottom of the test-tube a few oily drops of the same substance. Chemists agree in saying that this is the means "par excellence" of pre-

* Med. Times and Gazette, 1869, p. 290. † Gubler, Com. Or., Oct., 1869.

paring chloroform in a state of absolute purity. * * * *

The blood, in consequence of its alkalinity, causes chloral to undergo this same retrogression, and we may readily satisfy ourselves on this point by shaking the two substances together in a phial; the odor of chloroform will after a while be given off. Richardson, operating in this manner, was able to collect by distillation a certain quantity of chloroform.

Oscar Liebreich, well known by his works on Protagon, which he discovered, conceived the ingenious idea of seeking out whether this decomposition of chloral might not take place in the animal economy; his aim being to demonstrate the reäction referred to by the chloroformic intoxication which would result from the appearance of chloroform in the blood. We shall discuss this theory farther on, but whether it be true or false, we are indebted to it for chloral, and on this score it should be regarded as most felicitous. The German chemist experimented with chloral both on animals and on man, he ascertained its remarkable effects, and on the 2d of June, 1869, he communicated to the Academy of Berlin the result of his researches. Soon afterwards, August 16th, he addressed a note to the Institute of France, in which he again asserted the singular properties of the hydrate of chloral. The experiments of Liebreich were repeated on all sides; notes and communications to learned societies multiplied rapidly; chloral came honorably forth from all the trials to which it was subjected, and was soon ranked amongst the best therapeutical agents. Our present task is to exhibit the actual state of the question, assisting ourselves with the materials elaborated by our predecessors, and making use of our own experiments performed under the direction of a distinguished master, Professor Gubler, who was kind enough to guide us in the difficult task of experimentation. We shall examine separately all the properties of the hydrate of chloral, the only one of the three forms of trichlorated aldehyde employed in practice.

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B—PHYSIOLOGICAL PROPERTIES OF CHLORAL.

1*st. Chloral as a Hypnotic.*—This is an unquestioned fact in the history of chloral, and one of capital importance; it is a powerful soporific, rapidly producing a sleep almost physiological in character, without preliminary excitement as in the case of chloroform, and without the disagreeable or untoward consequences which result from the use of ordinary narcotics. This rule is not without exceptions; thus, sleep is not procured in every case, and sometimes on awaking, there have been observed such accidents as intoxication, excitement, and sensorial or other hallucinations. Comparisons have not been wanting between the narcosis of chloral and that of opium, and the preponderance of opinion has not always been in favor of the latter. The following phenomena are observed in sleep from chloral: The first period is that of ordinary slumber; there is muscular relaxation, narrowing of the palpebral opening, and gradual loss both of consciousness of external objects, as also of special sense; then comes the second period, that of sleep, properly so called. This last is generally not very profound; the least disturbance interferes with it momentarily, but as soon as the latter ceases the former is renewed. A few facts will suffice to mark this phenomenon; I borrow them from the different authors who have studied this question.

Experiments upon Animals.—According to Liebreich, 0 gr., 625 (9½ grains) of hydrate of chloral suffice to put a frog to sleep for more than half an hour; 1 gr., 1 gr. 80 (15 to 27 grains) given to rabbits narcotizes them during several hours. Richardson obtained the same hypnotic effects in other animals, pigeons, mice, and even fish. * * * * *

Experiments upon Man.— * * The following are a few observations taken from Liebreich's works: I choose them from amongst the best described cases.

An epileptic, 42 years old, tormented by delirious fancies with habitual insomnia, took 1 gr., 35 (20 grains) of hydrated chloral; in ten minutes he fell into a sleep which lasted three

hours. The same dose in a case of general paralysis made the patient sleep half an hour. An idiot suffering from hallucinations received at a single dose 1 gr., 58 (25 grs.); in half an hour sleep supervened and lasted three hours. The author adds that, in these three cases, the sleep was normal, and did not differ from physiological sleep.

A patient with general paralysis, with paroxysms of violent excitement, was not in the slightest degree calmed by morphine in doses of 0 gr., 25 (about 4 grains). He took 3 gr., 50 (54 grains) of the hydrate at a single dose; twenty-two minutes afterwards he was in a calm sleep which lasted three hours.

It would be superfluous to multiply these quotations; the different authors who have investigated the subject of chloral have arrived by analysis of their observations at certain conclusions which I shall present; they are more valuable than a mere narration.

Demarquay* states that the hypnotic action is more intense and lasts longer in proportion to the enfeebled condition of the patient. He adds that sleep is most frequently calm, but that some patients have dreams and hallucinations. With children Bouchut† always procured sleep very readily by the employment of chloral; he regards it as an excellent narcotic. This is also the opinion of Richardson,‡ Spencer Wells,§ Giraldés,‖ Worms,¶ etc. Unfortunately although narcosis may be obtained in most cases with chloral, it is not constantly so; we can not unfailingly induce it. Demarquay gives a table of 14 successes in 20 cases, and other authors have seen smaller proportions, whence we have a right to conclude, that under some circumstances the hypnotic action of chloral is uncertain; an uncertainty however which it shares with all known narcotics.

Is this saying that we must regard the hypnotic properties of chloral as doubtful? Not at all. I believe in this property.

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* Acad. des Sciences, 20th, Sept., 1869.
† Acad. des Sciences, 2d Nov., 1869.
‡ Med. Times and Gazette, 1869.
§ Med. Times and Gazette, 1869.
‖ Soc. Chir., 13th Oct., 1869.
¶ Gaz. des Hôpitaux, p. 486.

I will willingly go so far as to say, that chloral should always cause sleep, and I offer as proof the experiments made upon animals. I explain these failures in man by the fact that the drug was used in cases of agrypnia, in morbid insomnia, a complex condition, which can only be effectually combated by means of remedies varying according to the case. Give to a man in good health a sufficient dose of chloral and he will go to sleep. Agrypnia will not always yield to chloral, any more than it yields to opium, to the bromide of potassium in every case in which these narcotics are empirically employed. When chloral shall be given in those conditions of fitness and opportuneness which as yet escape us, but with which we shall doubtless ultimately become acquainted, success will always follow its administration.

It seems to result from the analysis which we have made of the observations reported by different authors, that chloral acts principally when agrypnia is accompanied by cerebral hyperæmia (general paralysis, acute alcoholism, etc.); I can not, however, urge this as an indication for its use, since we have but meagre information as to the vaso-motor action of chloral. We need new experiments to demonstrate to us that it augments vascular tension, for then only shall we be authorized to say that it ought to be prescribed in the sleeplessness which is accompanied by symptoms of congestion in the region of the brain.

What is the theory as to the hypnotic action of chloral? None has as yet been proved, and I mention this gap, which can only be filled by direct experimentation, for I can not admit that chloral, simply because it induces sleep, produces anæmia of the brain, in accordance with the modern theory of sleep, so brilliantly supported by E. Durham,* Hammond,† Guenean de Mussy,‡ and C. Bernard.§ Such a conclusion does not suffice us; we can do better than that by going straight to the goal we seek, by examining the brain exposed to view dur-

* Guy's Hospital Reps., 3d Series.
† On Wakefulness, Philadelphia.
‡ Leçon's Clin., Union Med., '66. Fernet.
§ V. Leçon's Coll. Fr., 29 Jan., '60.

ing sleep from chloral, and determining its vascular condition. We should thus solve the only portion of the problem which is, they say, accessible to our means of investigation; the other, the most interesting to be known, will escape us, if not always, at least for a very long while; I allude to modifications of the brain-matter itself, which result from sleep.

To resume, hydrate of chloral is a powerful hypnotic, promptly bringing on sleep, maintaining it, often profound in character, during several hours, but not always acting in insomnia, because the latter presents very diverse forms, upon which the medicine can not invariably mould its action.

2*d*. *Chloral as an Anœsthetic.*—Rather an ambitious title, since this property of chloral is not universally admitted. And why this divergence of opinion? I attribute it to the dissimilar conditions under which the experiments were made. It results nevertheless from the facts reported by Liebreich, Richardson, Krishaber and Dieulafoy, Labbé and Goujon, that in animals anæsthesia from chloral is real and constant, when medium or strong doses are administered. Demarquay, however, far from having witnessed anæsthesia in rabbits, describes a certain degree of hyperæsthesia; Richardson has also noted this latter circumstance in one case, and I have likewise observed it in rabbits, but the hyperæsthesia existed only in the ears of the victims.

Can we draw conclusions from animal to man, and admit in the latter anæsthesia from chloral? I willingly place myself on the affirmative side, on the condition that the question be limited to man in good health. It is, in fact, important to distinguish between anæsthesia and analgesia; the former term being applicable to the loss of the normal sensitive functions of the nerves; the latter designating the sedation of phenomena of exalted sensation. The following simile will perhaps better express my meaning: I establish a scale of sensitiveness, placing the normal condition at zero; below zero we shall have anæsthesia, above it hyperæsthesia, and by lowering the latter we shall produce analgesia.

All anæsthetic medicines may, indeed, more or less, deaden normal sensitiveness, but they are far from being always efficacious against morbid sensibility. The reason is, that the latter does not always occur in a simple form; most frequently it is complicated with other accidents; hence it no longer suffices to act only upon the nervous element of the disease, but we must necessarily guard against other disorders occurring principally in the circulatory apparatus. The old axiom, "ubi dolor, ibi fluxus" (sic) is not constantly true; for under some circumstances we observe an opposite condition of the vessels, which is no longer congestion, but anæmia from constriction of the smaller vessels, whose fibres are in a state of contraction. We do not lack therapeutical proofs for the establishment of this theory, and as instances I may mention the successful employment of opium, of heat, and of certain electric currents, in a large number of painful affections, which we fail to soothe, and which we even exasperate by sulphate of quinine, bromide of potassium, and cold which generally pass as means of relieving congestion.

The conclusion to be drawn from this is, that we must not content ourselves, under penalties of frequent failures, with combating pain by means of a medicine reputed anæsthetic, and selected at hap-hazard; it behooves us to make a choice, and to study certain peculiarities which surround these morbid acts, and I speak especially of those most easily laid hold of, the vascular phenomena, in order to oppose them with an assemblage of antagonistic medical properties, capable of successfully combating hyperæsthesia, for instance, and the circulatory disorders which accompany it. This being established, I resume the consideration of the anæsthetic action of chloral, by saying that it appears to me to be incontestible, and that, if many physicians have not been able to assure themselves of its existence, it is because they have prescribed it in very complex painful conditions, when it was not sufficiently indicated. Opium, which is an anodyne of the first order, is far from always succeeding, and yet no one denies its analgesic qualities.

What is the theory of chloralic anæsthesia? But little attention has been paid to it. Many authors admitting the transformation of chloral into chloroform, attribute to the latter the effect produced upon the nerves of sensation and the centres of perception. If their views be adopted, we must bring into the discussion the mode of action of chloroform, so well studied out, and that somewhat recently, by C. Bernard. As we know, this distinguished physiologist has demonstrated by very ingenious experiments,* the elective action of chloroform upon the sensorial element of the spinal marrow. Moreover, by tracing the progress of anæsthesia, he shows that sensation disappears first from the peripheric extremities of the nerves, then from their trunks, and lastly from the centres; finally, he has discovered a new and quite surprising fact—viz., that the brain has an anæsthetic action on the medulla by its influence over that organ.

Are these the properties of chloral? I trust that they may be, but no one has as yet shown them to be so. When it shall have been submitted to the same experimental proofs as its congener, then only shall we have a right to say, that these two anæsthetics act in the same manner upon the sensitive portion of the nervous system. To plead the transformation of chloral into choroform, and to draw thence a theory as to its anæsthetic properties, is to build upon a hypothesis.

3*d*. *Effects of Chloral upon the Circulation.*—Hydrate of chloral is endowed with a most marked action upon the circulation. Thus, fifteen centigrammes of this substance will, in a few minutes, stop the heart of a frog in the act of diastole, the organ is then of a dark, bluish color, its auricles are much distended, and its general dimensions almost doubled. The following is an experiment, which allows us to examine the circulatory disorders produced by chloral. An active frog is arranged in such a manner as that the circulation in the interdigital membrane may be conveniently studied with the microscope; then fifteen or twenty centigrammes (two to three grains) of

* Cl. Bernard, Lçç. Coll. Fr., 29th Jan., 1869, subsequent.

chloral, dissolved in a little water, are injected beneath the skin of the animal's back. At first the capillary circulation does not seem to be troubled, the blood globules passing beneath the eye with enormous rapidity, but ere long their speed is diminished; the smaller capillaries become obstructed, the current of blood is turned aside to travel by wider channels, which, in their turn, are closed, for the globules are crowded into them in the shape of oscillating columns, marking out the net-work more and more distinctly. Gradually the blood stagnates, the arterioles of large calibre become impermeable, and then all movement definitely ceases.

In rabbits, two or three grammes (thirty to forty-five grs.) of chloral are needed to stop the heart in diastole. Goujon and Labbé, on injecting two grammes (thirty grs.) into the jugular of a dog, saw the animal fall as if struck by lightning; its heart beat tumultuously, but quiet was soon restored, and the normal rhythm reäppeared. This unique case reminds one of what happens after the administration of large doses of chloroform.

The following vascular lesions are met with after poisoning by chloral: The brain is congested, the sinuses of the dura mater are engorged with black blood, and a fine injection covers the membranes of the cerebro-spinal axis. There is a similar hyperæmia of the abdominal viscera (Richardson, Demarquay), and of the trachea. Richardson has seen the muscles very red, and full of blood of a dark color. Lastly, the mucous membrane of the stomach has been found by him much congested, but without any other apparent alterations.

As far as I know, no researches have been made, directly at least, as to the effects of chloral upon vascular tension. Some observers, Naucias, of Venice,* and Bouchut have collected a few sphygmographic sketches from chloralized patients, but their conclusions are opposed to each other. The Italian physician found the tension normal, whilst the physician of the Children's Hospital observed an increased tension with augmentation in the number of arterial pulsations (80 to 120). This

* Acad. des Sciences, 13th Nov., 1869.

last result, which does not exactly agree with the law laid down by Marey (and which itself is, I admit, not always true), being unique, can not mislead us. I may mention also the adverse experiments of Demarquay, who has seen in rabbits phenomena of congestion, which he compares to the hyperæmia consequent upon section of the great sympathetic, according to Bernard's method. Goujon and Labbé have remarked an opposite effect in a chloralized rabbit; the ear was found pale and cold; and I have seen the same occurrence, after a subcutaneous injection of a very small quantity of hydrate. Liebreich and Demarquay assert that in man small doses do not disturb the pulse.

To resume, large doses retard the action of the heart, and afterwards arrest it in diastole; the organ is, moreover, the "ultimum moriens." During a long time, says Richardson, it has an imperceptible action, which keeps the animals in a state of apparent death, and which explains their restoration to life, even when it was thought that death had really occurred.

How shall we explain the action of chloral on the heart? Is it a case of paralysis of the muscle itself, or ought we to refer stoppage or its retarded movements to an alteration of the heart's centre of innervation, situated in the bulb? The first hypothesis is by no means tenable; for, after the stoppage of the organ, all kinds of mechanical excitement arouse its irritability momentarily. Liebreich, and a majority of writers, admit that chloral acts upon the innervation of the heart, which it abolishes.

The following is one of the experiments performed by me, to satisfy myself of the indirect action of chloral upon the muscle of the heart: I exposed the heart of a frog, and placed some finely powdered chloral upon the ventricle. Its color became brighter, and then its pulsations dropped from 60 to 24, but I could not obtain a lower figure, the organ regained the ascendancy. Afterwards I only succeeded in stopping it by means of enormous and repeated doses, which then acted mechanically. Chloral then has no local action. In a second ex-

periment on a frog, in which the bulb had been divided, the stoppage of the heart by chloral was only very gradually obtained. It is true that the circulation was less active, and the absorption of the drug less prompt, but the experiment is nevertheless of some value; for whilst the cardiac pulsations are arrested at the end of five or six minutes in a frog in which the bulb is uninjured, they may be seen to persist for more than an hour after section of the bulb in a frog to which the same dose of chloral had been given. Perhaps a more conclusive experiment would be to cut the tenth pair, or to paralyze its peripheric extremities by means of woorari, and then to notice the action of chloral; we should thus find out if it be less prompt than under ordinary circumstances. The action of chloral on the bulb seems to me, therefore, probable, and secondarily the pneumogastric, its cardiac branches, and the intra-cardiac ganglia are involved.

Has chloral any action on the blood? Richardson admits it, and has described changes in the globules, which become jagged, as also the loss of its coägulability, or its attenuation; arterial and venous blood preserve their respective colors, but it is nevertheless easy to see, that after poisoning by chloral, the blood is always blackish. Personne has found chloroform in it.

4*th. Effects upon Temperature.*—These are very evident, and manifest themselves sometimes in animals by a fall of more than two degrees (centigrade), even after doses which are not poisonous. In man, during sleep from chloral, the skin is often felt to be cool, and slight chills are not unfrequently observed during the period preceding sleep. Richardson has noted in rabbits and dogs a fall of five, six, and even seven degrees Fahrenheit. He was doubtful whether this lowering of the temperature was not due to relaxation of the inspiratory muscles, or even to a diminution of respiratory power. He has not solved the problem, but he has confirmed the direct relation between diminished respiration and decrease of animal heat. In a feeble dose, chloral acts but slightly upon the temperature (De-

marquay). In man, if this thermometric decrease be measured, it is found that there is a loss of but some tenths of a degree, and that subsequently there is even a slight increase of heat. The maximum of decrease in children was, according to Bouchut, 1°2 (cent. 2°1, Fahr).

Labbé and Goujon explain the fall in temperature by the fact of sleep itself, but this explanation is not quite satisfactory, since it is quite rare that we find a difference of a whole degree between the temperature of sleep and that of waking, and at any rate we can not adopt this opinion, when we know that there has been a diminution of two degrees, as I have seen in a rabbit, which survived the experiment. I should more willingly admit that the derangements of respiration and of hæmatosis interfere with the chemical processes taking place in the body, and consequently with the production of heat. Jeannot Schienesson* has shown that chloroform lowers the temperature by lessening the mechanical labor of the heart, and organic combustion, and I do not doubt but that this explanation is applicable to chloral, inasmuch as it has a more manifest action upon the temperature than chloroform.

5*th. Effects upon Respiration.*—In small doses chloral retards respiration; in a larger dose it interferes with its rhythm, and makes it irregular and jerking; in an excessive dose the interference becomes more marked, until finally cessation occurs. In man, therapeutical doses diminish the number and extent of the respiratory movements (Liebreich, Demarquay, Richardson).

Autopsies of animals poisoned by this drug have not revealed any very marked pulmonary lesions. Demarquay has seen the broncho-pulmonary mucous membrane in a state of hyperæmia. Liebreich mentions emphysema and atelectasis; Richardson, paleness of the pulmonary parenchyma.

In view of these physiological facts, we must needs seek for a theory as to their production; or, in other words, endeavor to

* Archiv. der Heilkunde, Bd. I., II., III. Helf., 69.

penetrate farther into the essential nature of the action which chloral has upon respiration. We have seen that it does not interfere with muscular contractility or nervous conduction, so that we can not explain the disorders of respiration by a paralytic condition of the respiratory muscles, due to lesion of the muscular fibre, or of the peripheric portion of the nerves. It is absolutely necessary to appeal to its action upon the nervous centres; and, unfortunately, we can not demonstrate this directly, but are led to it by induction alone. In fact, in chloralism we witness a gradual suppression of the nervous functions, just as completely as if we removed one by one, each of the corresponding divisions of nerve-substance; the centres of respiration and circulation being the last to be affected. We are of opinion then that the disorders of respiration are connected with changes in the bulb, and if it be urged that they are due to enfeeblement of the heart's action, I reply to the objection by the following experiment: A little powdered chloral is dropped upon a frog's heart, and a diminution in its velocity is not long in occurring, but the respiratory movements continue, and sometimes even become more frequent. Indirect action is not then admissible; the effects produced upon the bulb should alone be advocated.

6*th. The Action of Chloral upon the Muscular System.*—Chloral acts powerfully in producing muscular relaxation; even in small medicinal doses this effect is produced, but in such cases the relaxation is nothing more than what we usually observe during sleep. In a full dose the diminution of muscular power is so great, that the respiratory, as well as the reflex movements, cease. Landrin* has confirmed this statement by experiments on dogs with doses of from 1 to six grammes (15 to 80 grains). Does this loss of power bear likewise upon the muscles of organic life? Richardson is of this opinion, since the muscles of the iris and of vessels are quite rapidly paralyzed.

What is the cause of this depression of muscular power?

* Acad. des Sciences, 2d Nov.

Richardson adduces in explanation, an alteration of structure, since he has seen the muscles gorged with dark blood, and this stasis of the blood would interfere with the function of the part. In fact, chloral does, to a certain extent, produce an impression upon the striped fibre. I have often remarked an early and considerable cadaveric rigidity after contact of the muscular tissue with a solution of chloral, but only under particular conditions; it occurred in frogs after section of the medulla or of a nervous trunk. If, for instance, the sciatic be divided, and a small quantity of a solution of chloral be injected into the thigh of a frog, cadaveric rigidity will shortly after invade the entire limb, and will be gradually transmitted to the whole animal. But I will not stop for these details, which have not much importance in the question which occupies our attention, and which prove nothing in favor of Richardson's theory. This English physician has maintained, without demonstrating its truth, the hypothesis of structual change.

The poison seems to leave muscular contractility intact, as Goujon and Labbé have proved by electricity. The same fact has presented itself to my observation in frogs, even after death had occurred several hours previously. Nor is its irritability affected; of which we may assure ourselves by means of a galvanic current; and we must, therefore, refer the muscular hyposthenia to some change in the nervous centres. Professor Longet asserts that the pons varolii is the centre of locomotor excitation, and it is probable, therefore, that in chloralism this part of the brain is affected and its functions interrupted.

7th. Successive Action of Chloral upon the Nervous System.—Flourens has well shown how chloroform acts upon the nervous centres, abolishing their functions one by one. Chloral seems to possess the same power. In virtue of its affinity for the nervous system, it takes away from it each one of its functions in the following order—viz., the hemispheres, the pons, the spinal cord, and finally the medulla oblongata being successively attacked, we witness the disappearance in turn of intelli-

gence, volition, muscular power and sensation, respiration and circulation.

8*th. Oculo-pupillary Phenomena.*—During sleep from chloral the eyes are injected and drawn downwards and inwards, and the pupils become contracted; in a word, it is evident that the condition is the same as in physiological sleep. In rabbits, Richardson has remarked dilatation and irregularity of the pupil, after the administration of strong doses of chloral, but there is nothing in this which is peculiar to chloral, since it is observed in many other cases of violent death. Bouchut made an examination of the fundus of the eye in a child during sleep from chloral; the veins of the retina were found small and filled with black blood. Chloral seems to have an almost elective anæsthetic action upon the eye; the cornea as well as the sclerotic becomes very rapidly insensible; Liebreich first noted this circumstance.

What is the cause of the oculo-pupillary phenomena which follow the administration of chloral? Richardson speaks of paralysis of the muscles of the iris, but we can not understand why the action of the poison should be directed against the radiated rather than the circular fibres. Have we to deal here with a nervous action affecting the filaments of the great sympathetic, or the cilio-spinal centre of Budge and Waller? Possibly so, although there is nothing to prove it; no experiment has been made in order to demonstrate it. I ought to add that atresia of the pupil never occurs but during sleep, and that we can not cause it directly by dropping a solution of chloral into the eye.

9*th. Action of Chloral on the Secretions.* — Chloral appears to augment the secretion of urine (Demarquay, L. Labbé and Goujon, Personne), but it does not alter its normal qualities, i. e., we do not find in it either chloral or chloroform. I have satisfied myself, along with my friend Dr. Bordier, that the urine of a chloralized rabbit did not contain, on the animal's awaking, any principle capable of precipitating Barreswell's Solution; I have also seen the same thing while operating with

the urine of frogs. The investigations of Bouchut show that in man the case is quite different; the urine has been found so much increased in density as to mark 1032; in this condition it precipitated Barreswell's Solution, and was turned brown by potash or the sub-nitrate of bismuth. No polarimetric examination of it was made, which is to be regretted, for it is as reasonable to presume that glycosuria existed as that precipitation was due to chloral which had passed into the urine. In view of this unusual case, I should willingly adopt the idea of a transitory glycosuria; such occurrences are not rare in hospitals, intruding, as it were accidentally, upon a case and giving rise to mistakes.

Formic acid has not been detected in the urine.

Chloral has but little effect upon the function of the sweat-glands. Scarcely anything more than a little moisture or a slight perspiration has been noted during chloralic sleep, although Laborde* suffered from profuse sweats, after having used an impure chloral.

How does chloral act? Liebreich, studying chloral with regard to its decomposition in the body, was of opinion that this decomposition was only successive, i. e., that the chemical substance was not destroyed without passing through certain intermediate phases. He surmised a series of metamorphoses giving rise to the formation of chloroform, and of formic and muriatic acid. Now physiology gives an accurate description of the effects which result from the presence of chloroform in the economy; they are very easily determined. There can be nothing simpler then than to examine whether or no chloral, by oxidation, furnishes an intermediate substance, chloroform, before reaching its extreme terms of formate and chloride. This has been the starting point of the experiments with chloral.

In the first place, the German chemist noticed that the physiological action of chloral was the same as that of chloroform, and inferred the transformation of the former.

* Acad. des Sciences, 8th Nov.

In England, Richardson studying chloral and chloroform comparatively, administered by the hypodermic method, observed their effects to be identical; he admitted the German theory without further discussion; but it was soon after established beyond doubt for his mind, by further experiments—viz., that on giving chloral to animals in large doses, he noticed distinctly in their breath the odor of chloroform.

In France a distinguished chemist, Personne, brought forward another proof in support of the theory. On analyzing the blood of animals poisoned by chloral, he found that it contained chloroform in notable quantity; he was enabled to measure its quantity by decomposing it and isolating its chlorine by nitrate of silver. This and the fact that Roussin subsequently made a public demonstration before the Academy of Medicine of this metamorphosis in blood outside of the economy are the principal arguments which plead in favor of Liebreich's theory.

These arguments are very weighty, but nevertheless I do not regard them as unimpeachable. And in the first place, is it necessary that a compound substance should be decomposed within the body in order to act upon it? No. The organic alkaloid, the iodide of potassium, certain salts of mercury, etc., traverse the system without change, and produce nevertheless powerful effects, and chloroform is in the same category, for no one has ever been able to detect the formic acid resulting from its decomposition, and it acts therefore by its presence alone. This circumstance allows us to suspect, at the very outset, that chloral may in its turn have a similar autonomy, a similar catalytic power, so to speak, of acting by itself. Several writers in France have supported this latter theory, and have advanced arguments which I shall repeat.

Demarquay was the first to reäct against the theory of transformation, declaring that it had no foundation, since he had plainly detected the odor of chloral in the breath of animals poisoned by it, but never that of chloroform. Comparing the action of chloral upon the nervous system with that of chloroform, he observed two opposite effects, hyperæsthesia with the

former, anæsthesia with the latter. L. Labbé and Goujon have given still other reasons for opposing Liebriech's theory. If we admit the reduction of chloral in the blood of an animal, the latter ought to die during the excitement of insomnia, for the experiments of Flourens, Longet, and Gosselin have proved, that when small successive doses of chloroform are introduced into the blood, death supervenes after phenomena of violent excitement. Chloral would completely fulfill these experimental conditions, if it be true that it is transformed into chloroform in the blood.

Professor Gubler* has urged against the theory of Liebreich the following considerations—viz: 1st. The blood opposes an obstacle to chemical reäction by the albumen which it contains, for the latter envelops chemical substances and becomes an effectual barrier between their mutual affinities; chloral and the alkaline salts of the blood are subjected to this influence, and consequently can not come in contact, so that reäction may take place; 2d. Anhydrous chloral is a violent poison, which far surpasses chloroform in the intensity of its toxic properties. This is readily proved by the following experiments: Beneath two bell-glasses are volatilized, in the one, two drops of chloral, and in the other ten or twelve drops of chloroform, and then a frog is placed in each. Now, whilst the one which breathes the chloral succumbs after phenomena of violent excitement, the other, which has been subjected to the action of chloroform, goes to sleep, and is easily restored to consciousness. The anhydrous chloral penetrating atom by atom into the blood of the reptile, was in the very best physical condition for producing chloroform; nothing of the kind took place, since it killed the animal, which the chloroform would not have done.

I have thus exhibited the arguments for and against the theory of Liebreich; I have still to state for what other reasons I can not adopt it. According to my idea, the best argument that can be advanced against the theory, is that it rests upon uncertain proofs. Richardson, in arguing upon the odor of chlo-

* Soc. de Thérap., December, 1869.

roform perceived in the breath of chloralized animals, furnishes but a doubtful and uncertain fact. We can not place overmuch reliance on an olfactory diagnosis, and besides, Demarquay, on the other hand, noticed the odor of chloral. There remains the analysis of Personne, who demonstrates the presence of chloroform in the blood. This proof is but a specious one. This chemist measures the chlorine, and in order to show that it is chloroform which has furnished it, he submits an aqueous solution of chloral to an identically similar operation, but does not succeed in isolating chlorine. This manner of procedure is too indirect to convince me. But laying aside whatever defects may exist in the method employed, I will admit for a moment that the blood does contain chloroform. What then? Why, that it will be eliminated in the ratio of its production, it will pass off at once by the natural emunctories, the lungs, kidneys, and sweat-glands, and it will therefore either not act at all or else it will produce only imperceptible effects.

Cl. Bernard demonstrated, a very long while ago, that the toxic effects of a formidable poison (strychnine, hydrocyanic acid, etc.), may be controlled by providing for its elimination incessantly and in proportion to its supply. And besides, what are we to think of the case cited by Liégeois,* in which a dose of chloral was given to a patient, and shortly afterwards chloroform was administered by inhalation, in order to produce anæsthesia. Wonderful to relate, the only result arrived at was the bringing on of a state of excitement all the more violent, the more the medicine was pressed; the patient resisted the influence of the anæsthetic agent. If transformation be admitted, we can not understand why chloroform added to chloroform should not produce anæsthesia.

Richardson offers still another proof in support of the German theory, that, namely, of the identity of effect of chloral and chloroform administered by the hypodermic method; analogy there may be, but identity is far from being evident, for the duration and intensity of action are by no means the same in

* Société de Chirurgie, 16th March.

two cases. This argument has but little weight with me, for I do not see in this comparison either the possibility or the proof of transformation, but a simple resemblance of effects.

Antagonism of Chloral and Strychnine.—In December, 1869, Liebreich added a new and important point to the history of chloral. Having injected two grammes (30 grains) beneath the skin of a rabbit, and sometime afterwards 0 gr. 0015 (about one-fifth grain) of sulphate of strychnine, he was surprised to find that the symptoms of poisoning by strychnine failed to make their appearance. There were no convulsions, no appreciable disorder, and a ready restoration to consciousness. He inferred an antagonism between chloral and strychnine. He satisfied himself, however, that chloral is not an antidote for strychnine, although the reverse may be the case; for the latter substance is absorbed too rapidly, and acts before the chloral can reäct upon it. Liégeois* has confirmed the fact announced by Liebreich, and explains it by saying that chloral assists the elimination of the strychnine. I recognize distinctly here two effects acting in contrary directions; strychnine increasing the excito-motor power of the spinal cord, while chloral seems to weaken it. We understand how Liebreich's rabbit profited by the antagonism.

C—THERAPEUTICAL APPLICATIONS OF CHLORAL.

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In the following recital we shall endeavor to bring succinctly together the fundamental properties of chloral and the applications which have been made of them, in order to avoid a nomenclature at once irksome and void of arrangement:

1*st. Hypnotic Action.*—Although a very good hypnotic, chloral does not always succeed in agrypnia. I have shown that in this it does not differ from the narcotics in general usage, and that there is ground for believing that its success will be more certain when we become better acquainted with its mode of action on the circulation. Insomnia, I repeat, is accompanied

* Soc. de Chir., 30th March.

sometimes with hyperæmia and sometimes with anæmia of the brain, and we readily, therefore, understand of what importance is the vascular action of a hypnotic, since on that depends the indication for its use. It would seem to result from a certain number of observations, that chloral acts principally in the insomnia complicated with hyperæmia, but I can not assert this as a fact, especially as it is opposed to the conclusions of Demarquay. According to this surgeon, chloral acts chiefly upon weak and debilitated patients. With Liebreich and Bouchut, I consider chloral an excellent narcotic in the treatment of children; in their case it is not open to the same grave objections as opium.

2*d*. *Analgesic and Anæsthetic Action of Chloral.*—From this action, which is undoubted, results many applications. Experience has shown the good effects of chloral in sciatic (Spencer Wells), supra-orbital, and sub-occipital (Namias), and trifacial neuralgia (Richardson), etc., in the intense pains suffered by some consumptives (Marechal de Calvi, Maudl, Namias). I may add that Bazin, the eminent dermatologist of the Hospital St. Louis, has obtained excellent results from the use of chloral in painful zona.

Unfortunately, chloral does not always relieve pain. * * . . . * * At any rate, we can not expect from the use of chloral more than a palliative effect; it can never, for instance, aspire to the *cure* of neuralgia, in consequence of the fugitive nature of its effects.

We find the employment of chloral in hepatic colic and biliary calculus recommended in various journals.* It is an open question whether chloral would not act topically on the duodenum so as to calm the paroxysms of pain, as we know that its power of local anæsthesia have been proved by Liebreich. Is this efficacy of chloral in hepatic colic superior to that of chloroform, demonstrated long since by Professor Gubler? I know of no proof of it.

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* Zuber. Thése de Strasb., 1870.

Chloral has been given for the arthralgia of acute rheumatism, but with what result is not definitely known.

To my mind, one of the best indications for the use of chloral as an anæsthetic has been pointed out by Giraldés, Demarquay, and Spencer Wells. These surgeons administer the hydrate to persons on whom they have operated as soon as the operation is finished; the patients go to sleep and escape the painful sequels of the operation. There would be no harm in adopting this course after an accidental wound, as have done Liebreich, W. Adams, and Marjolin.

In Germany it has been suggested that chloral might be introduced into surgery, and Bouchut is of this opinion; he has extracted teeth during chloral sleep. It is possible that minor surgery may utilize chloralic anæsthesia, but I doubt much if it prove sufficient for capital operations, as it would be necessary to use large doses, which would not be free from risk, in consequence of the intoxicatiom which might ensue. I cite an instance related by Noir (de Brionde); in an amputation of the leg, in a patient kept under chloral for several hours, there came on after the operation a violent attack of "delirium with excitement."

I said whilst discussing the physiological action of chloral, that it had a very manifest anæsthetic action upon the cornea and the globe of the eye; and it seems to me that this property might be made use of in painful affections of the eye, though it might not be so well adapted to operations to be performed on that organ.

But I put a stop to this enumeration, for chloral has been employed in every sort of painful affection, although I do not know that it has as yet been recognized as superior to ordinary anodynes.

It results from the preceding considerations that chloroform surpasses chloral as an anæsthetic agent; in fact, that the latter, at least for the present, remains its succedaneum. It has been suggested to use chloroform to assist the anæsthetic action of chloral, but Liégeois has shown that, far from producing an-

æsthesia, the inhalation of chloroform after chloral produced violent excitement. Richardson says that he has produced profound anæsthesia by chloral dissolved in ether. I am astonished at such a result, knowing that ether, by inhalation in a chloralized patient, only produces excitement (Giraud, Teulon).

3*d*. *Indications Drawn from Certain Effects of Chloral upon the Nervous System — Chloral in Delirium.*—Chloral has been much lauded in delirium. It has been tried in all forms of mental aberration and certain transitory types of delirium. Insane persons laboring under excitement, and patients who, by accidentally stumbling, show serious derangements of the locomotor functions, present one symptom in common—viz., active cerebral disorder; and the idea has been suggested of employing the hyposthenic action of chloral to combat this exaltation of function. Suffice it to say, that the cases were not picked; and that the remedy was employed indifferently in the delirium of general paralysis, of mania, epilepsy, hysteria, etc., and also in that of patients who had been operated on; of wounded persons, in delirium tremens, etc., etc. I can only mention the good results obtained in each of these varieties of cerebral disorder, reserving absolutely my opinion as to the indication for the use of the drug, except as far as regards delirium tremens.

This form of delirium seems to be the most easily curable by chloral. Liebreich first called attention to the fact, and in England there was not long wanting an opportunity for verifying the assertion of the Berlin chemist. Barnes, of Liverpool,* very soon obtained nine cures out of ten cases by treating them with chloral; the patients were in all cases easily calmed and put to sleep by the medicine. Chapman and Richardson mention still other successes. In Germany, Langenbeck† also cured several of his patients of both sexes by hydrate of chloral. At present the cases of cure are quite numerous; they prove the happy effects of Liebreich's remedy, without, however, establishing its supremacy.

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* Med. Times, 27th Sept.

† Klin. Wochenschrift.

In view of such important results obtained in "delirium with excitement" by means of chloral, the idea occurred to several physicians that it might be advantageously prescribed in puerperal eclampsia. Some few cases seemed to justify this anticipation.* Bübl Brickard (v. p. 29) and A. Serré relate some favorable instances. We must, however, wait for a stronger array of positive facts before we can definitely decide upon the value of chloral in eclampsia.

I have mentioned a large number of nervous affections suitable for the employment of chloral; but I have not room for the discussion and analysis of all these applications. I should have liked to have evolved from them some points of practical utility as yet unknown, but unfortunately the cases observed are not sufficiently numerous to allow of the deduction of very precise conclusions.

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The elective action of chloral on the encephalic mass has not often been made use of in the treatment of organic diseases of the brain. Bouchut advises that it should not be prescribed in meningitis, for instance, on account of the cerebral hyperæmia which it produces. Després,† however, observed remission of pain in a woman suffering from meningitis and abscess of the brain, to whom he had given hydrate of chloral.

We have already spoken of the physiological effects of chloral upon the spinal cord; we know that it causes the latter to lose its motor excitability. The attempt has been made to profit by this hyposthenic action, in order to combat tetanus. Professor Verneuil first published a case of cure,‡ which created a great sensation. Nélaton addressed the Institute on the great necessity for caution in our estimate of the means employed, in view of the fact of but a single case of tetanus having been cured by chloral.

A short time afterward, when the Société de Chirurgie

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* Klin. Wochenschrift, Berlin, 1869. † Soc. de Chir., 27th April.
‡ Acad. des Sciences, 14th March, 1870.

opened a discussion upon Verneuil's communication, Déspres undertook to prove that traumatic tetanus is cured once out of nine times by the most varied methods, and that, therefore, there was ground for postponing any conclusions on the subject. A short time after, occurred a few negative cases which seemed to sustain this opinion. Without speaking of the failures in the treatment of spontaneous tetanus, related by Bouchut, I may cite the unfavorable cases of traumatic tetanus reported by Liebreich, Demarquay, Simonin, etc.* Quite recently my revered preceptor, Langier, lost a patient suffering from tetanus, in spite of the use of chloral in large doses.† And, moreover, Professor Verneuil employed chloral and morphine conjointly. Now this latter drug has often produced most brilliant results. Thus Briolle de Roquemaure,‡ in treating a tetanic patient, the history of whose case is almost identical with that of Professor Verneuil, gave him morphine internally and externally, using also blisters to the whole length of the spine. In nineteen days the cure was complete.

I can not, therefore, believe in the curative powers of chloral in tetanus. Undoubtedly it is a powerful palliative, calculated to moderate convulsions, but incapable of preventing their return. We must, for the present, regard it solely as a valuable means of sedation, whose effects are often transitory, in consequence of its rapid elimination. We may add to Professor Verneuil's successful case that of Dubreuil, which was also one of mixed treatment; *i. e.*, by chloral and continuous galvanic currents. Lastly, Langenbeck's case, in all, three cures.

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Two neuroses, chorea, and epilepsy, have been treated by chloral. Bouchut has met with remarkable success in chorea, and, on the other hand, he has seen a case of symptomatic epilepsy grow worse under the influence of the medicine. I am unwilling to draw any conclusions from these cases, quite too few in number to carry any conviction with them. But we

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* Soc. de Chir., 4th May, 1870. † Soc. de Chir., June 1st.

‡ Gaz. des Hôpitaux, 1869, p. 386.

must admit as regards chorea, that if it is always as readily amenable to chloral as in the cases reported by Bouchut, the therapeutics of children's diseases will have made a most valuable acquisition. Whilst, however, I shall be glad to find this point ultimately established, I am still doubtful of it, recalling to mind that other medicines, the bromide of potassium, for instance, have, *sometimes only*, produced as good results, without our being able to account for this irregularity in its action. And, moreover, my distinguished preceptor,* M. Roger, has had no reason to congratulate himself on the use of chloral in chorea. Adhuc sub judice lis est.

There is not a single disease, either incurable or difficult to cure, in which an attempt at relief by *the use of medicine* has not been made; even *locomotor ataxia* could not escape chloral. It has been given with the special purpose of relieving the terrible pains of *tabes* (sic), but its efficacy has not as yet been shown to be unquestionable.

Chloral has, with the same object, been tried in the lancinating pains of cancer. Demarquay, who, by way of comparison, made some experiments with morphine subcutaneously, prefers the latter.

4th. Indications drawn from the Effects of Chloral on the Circulation and the Blood, on Temperature, Respiration, and the Muscular System.—The pressure exercised by chloral upon the heart, added to its analgesic properties, lead us to anticipate its successful employment in painful cardiac disease accompanied with excitement; but investigations in this direction are still to be made. The effect of this medicine upon the temperature might also be made use of in severe fevers, when the heat of the body is excessively increased, and this would not only be a good case for the administration of chloral, but at the same time a valuable resource, for we have but few medicinal agents with which to oppose this elevated temperature of pyrexia, which exposes the patient to such formidable dangers.

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* Bathery, Soc. Méd. d'Observation.

It has not yet been proved that chloral is eliminated by the respiratory organs, but, theoretically, it is very probable, and it is a property which might be utilized in certain painful affections of the bronchi. Maudl has administered it to consumptives in the form of cigarettes, and says that he has seen good effects from it. It is not impossible that this substance may act topically, producing anæsthesia of the broncho-pulmonary mucous membrane by contact. Certain convulsive or painful coughs have yielded to the administration of chloral (Liebreich, Maudl).*

I can not say if this agent would be of service to asthmatics or patients attacked with spasm of the glottis, for I know of no case which proves it. It remains to be investigated.

Richardson deduces from the power of chloral to produce muscular relaxation, an application of the drug which remains, I believe, a matter of pure theory; he recommends it in strangulated hernia to facilitate taxis.

If we take into account the effects of chloral upon the muscles of animal life, which are now unquestionable, and the more hypothetic ones, which it should have upon those of organic life, we may conclude that, theoretically, the employment of chloral in obstetrics is barely admissible. However, in consideration of the very remarkable results following the use of chloroform with lying-in women, we have reason to hope that chloral, like its congener, will some day disprove the theory.

According to Richardson, chloral acts on the blood, modifies its globules, and retards or prevents its coägulation, and lastly, makes it more fluid. The English writer sees in these facts a source of useful application. Thus, whenever we apprehend the results of coägulation of the blood, so liable to occur in certain diatheses or some diseases, it will be advisable to administer the drug. If this be admitted, it is clear that chloral is doubly indicated in burns as an anæsthetic, and as a substance opposing the development of thrombus, and capillary embolism;

* Gaz. des Hôp., p. 590.

an occurrence quite frequent in severe cases, according to Feltz. I confess that I would place but slight confidence in chloral for the production of these results, since it is eliminated very rapidly, and therefore can only have upon the blood effects which are fugitive in their character, and upon which we can by no means count for a modification of its crasis.

I will not speak of the expectations which may be founded on the topical action of chloral in its passage through the emunctories; these are not as yet well ascertained, and as I do not wish to add any more hypotheses to those which already burden the history of the drug, I pass them by with mere mention.

DOSES AND MODES OF ADMINISTRATION.

The dose varies according to age. Liebreich directs 0 gr. 04 ($\frac{2}{3}$ grain) for new-born infants, and 0 gr. 09 ($1\frac{1}{3}$ grains) for those under one year of age. Bouchut and Giraldés have prescribed 1 gr. (15 grains) at 4 years, and 3 or 4 (45 to 60 grs.) for patients from 5 to 15; for an adult the proportion is not much greater. We should never exceed 5 or 6 grammes ($3\frac{1}{2}$ to $4\frac{1}{2}$ scruples), although 10 grammes ($2\frac{1}{2}$ drachms) have been given with impunity. Richardson advises that account should be taken of the weight of the patient, of his condition, of spareness or obesity, and of his impressibility. I am of opinion that the dose should be specially proportioned to the effect sought for; a moderate dose to induce hypnotism, a larger one to produce anæsthesia or analgesia.

Chloral may be administered, as a draught, in capsules, in a clyster or by subcutaneous injection; the pomade and glycerolate of chloral are almost unused.

The ordinary vehicle for chloral as a draught is simple water, or mucilage of acacia, and we should be careful to add to it some corrective, such as the syr. cort. aurant. or some aromatic water. Limousin has devised capsules of chloral; they are convenient. The clyster of chloral is certainly the best method of administering the drug; the patient is spared its disagreable

effects upon the upper part of the alimentary canal, at the same time that its absorption is favored. The formula is two grammes (½ drachm) of chloral to 125 or 150 grammes of water (4-5 ounces).

Liebreich, Namias, etc., have tried the plan of subcutaneous injections. I do not perceive the advantage of this; its effects are neither more complete nor more rapid, and one runs the risk of leaving a scar. I know that this has not been the case in man, but in animals it is a frequent result.

I mention merely by way of note Richardson's plan of inhalation; he makes his patients inhale chloral previously dissolved in ether. It is a method suitable only for the laboratory. I prefer Mandl's cigarettes.

As a general rule, we should avoid prescribing chloral, when we apprehend any lesion of the gastro-intestinal canal (Liebreich).

Conclusion: I have thus given an epitome of the present history of chloral, still obscure and full of desiderata; but it has nevertheless been proved by numerous and conscientious investigations that "therapeutics" has been enriched by a powerful agent, full of promise and well calculated to stimulate the scientific ardor of physicians. The discovery of Liebreich will remain a monument of honor to German research.

Art. II.—On Chronic Endometritis. By R. W. J'Anson, M. D., Surry County, Va.

In the July number of "Braithwait's Retrospect," 1873, there is an interesting and valuable article from Dr. Atthill "On the Treatment of Some Uterine Diseases." In treating Endometritis, the Doctor recommends the internal use of solid nitrate of silver, even as much as ten grains. Whilst I do not fully concur with him in introducing so large a quantity, and especially in such a state, preferring powdered to solid caustic,

still I must add my testimony, as far as my experience has gone, in favor of such a plan of treatment.

As far back as 1864, I treated a case in which four or five grains of powdered nitrate of silver were several times introduced into the cavity of the womb. I found the method not only safe, but the result accruing from it as most satisfactory. It appears, however, that we are still ignorant as to whom we are indebted for this method of treatment, and it is not yet adopted by the Profession in England and Scotland; therefore it is due to suffering humanity for those who have had experience with it either to praise or condemn it. But I would not be doing justice to the cause or to myself were I not to confess that, notwithstanding since 1864 I have treated a good many cases of womb disease, this has been the only opportunity I have had for introducing caustic remedies within the cavity of the womb. At the time it was done, it was entirely new to me, but I was led along step by step in the following manner: Upon examining the uterus with the speculum, I took it to be simply a case of chronic inflammation of the os uteri, using a solution of caustic, an immediate improvement was the result, but I noticed, from further examination, the discharge continued to flow from above, and of course my plain duty was to follow it, and apply my remedies higher up in the womb. For this purpose a porte caustique, charged with solid nitrate of silver, was used, but after giving it several trials, I found that the caustic did not do its duty, its action was too limited, it had its point of contact, and only benefited what was in front. Laying this instrument aside, I put my own ingenuity to work, and used a common gum-elastic catheter, bending the stilette when it came in contact with the eye of the catheter, so that when the stilette was turned at the outer end of the catheter it would thrust out about four or five grains of powdered caustic, which was placed therein. This simple instrument, armed in this manner, was introduced a sufficient number of times, until the disease was finally cured. The condition of the patient at the time the treatment was begun was most wretched, in fact,

she was being treated by her medical attendant for chronic diarrhœa, and such was her cachectic appearance that I was fearful she had cancer uteri. Since that time she has enjoyed good health, and has been able to attend to her domestic affairs. As the treatment of endometritis by the caustic method does not appear even now to be fully established, I have written out this case (from memory, it is true,) in order to add my humble mite in its favor, hoping that for this reason I may be excused for the many imperfections of the article.

ART. III.—A CASE OF HYPOSPADIAS—OPERATION—RECOVERY. By DRS. BROWNE AND ISHMAEL, of Mt. Olivet, Ky.

Mrs. H., aged twenty-eight years, married five years; childless; applied to us for medical treatment on the 3d of November, 1872, complaining in such a manner and of such ailments, that we diagnosed the case to be one of chronic cervical endometritis—the first symptoms of which were noticed a few months after marriage, increasing in gravity up to the date of this consultation; notwithstanding she had been under the care of reputable physicians all the time.

On inquiry, we learned that her husband, the subject of this article, aged forty-four years, and a man of the most perfect apparent health, had been married prior to the union with his present wife. His first wife lived seven years after marriage, and died childless. The disease of which she died ran a similar course to that of his present wife, which we, from the subsequent history of the case, suppose to have been chronic cervical endometritis, passing in time into corporeal endometritis, and finally destroying the patient by supervention of acute ovaritis, going on to suppuration accompanied by pelvic cellulitis.

We thought this something more than a mere coïncidence, and in searching for the cause, found the husband, T. H., laboring under a malformation of the penis—hypospadias.

The urethral opening was discovered about the anterior part.

of the membranous portion of the urethra; the scrotum cleft in the median line. The glans penis, corona glandis, prepuce and frenum preputii were naturally formed, with the usual vertical fissure at the summit of the glans, but no trace of meatus urinarius.

Believing that we had discovered the cause producing the disorders of which Mrs. H. was a subject in the husband's infirmity, we suggested an operation for the relief of this malformation, as the only rational treatment we could apply for the relief of the uterine disorder—the cause being removed, the effect would cease.

Having decided upon operating; everything being in readiness; anæsthesia produced by chloroform, we proceeded to the performance of the operation by plunging—not without difficulty—a large size trocar, entering at the usual site of the meatus urinarius through the corpus spongiosum, following as nearly as possible the natural course of the urethra, until the trocar made its appearance in the membranous portion of the urethra, posterior to the fissured outlet.

Removing the trocar, we introduced a large size catheter into the bladder, and united the fissure by means of interrupted sutures—the edges having been pared. The canal was kept pervious by the almost constant wearing of a catheter, until a mucous lining was formed; since which time we are having the catheter worn for a few hours daily, to prevent contraction of the artificial canal.

The old fissure closed kindly, and the operation speedily terminated in success.

Since operating, we have had the satisfaction of seeing our original patient, Mrs. H., steadily improve, until she now feels entirely well, and is, at this time, in the fourth month of pregnancy. The result demonstrates the correctness of our first diagnosis, prognosis, etiology, etc.

How great is the caution necessary on the part of the physician in searching out the remote causes of disease.

ART. IV.—CHOLERA-INFANTUM. By D. KELLER, M. D., of Paris, Ky.

Cholera-infantum is a disease of which many thousands of children die annually; in some of our large cities as many as two hundred and fifty have been the reported loss of a single week.

A practitioner who has been for over thirty years constantly engaged in the treatment of disease, and has seen cholera-infantum in all of its phases, and has been almost uniformly successful in its management, is irresistibly forced to the conclusion, that there is something radically wrong in the treatment followed by such startling results.

In cholera-infantum, like the cholera of adults, there is always danger of a speedy collapse, and the first thing to be done is to arrest the vomiting and purging. For this purpose I use calomel and pulverized charcoal in doses of from five to twenty grains in proportion of ten to twenty of the former to two to four of the latter. In all severe cases I prefer the larger dose, from the fact that, in my hands, it has very generally arrested the vomiting and purging at once. Mix in a little loaf-sugar and water, dashing the face with ice-water for a few minutes, or until the stomach is settled. Should the first dose be thrown up, I repeat immediately, but generally the first is sufficient, and in a short time the little patient drops off into a sweet sleep, and there is no more vomiting or purging. The action of calomel, in efficient doses, is evidently sedative in this disease, as shown by the quietude which succeeds its administration.

When the liver is thoroughly unlocked, and the bilious discharges maintained for a day or two, we but rarely have consecutive fever, stupor, or convulsions. Where, under the astringent and opium practice, these complications are usual.

I use no opium in any shape or form; no astringents, vegetable or mineral, and my success has been all that I could ask.

I know there is abroad in the medical world a wide-spread distrust of calomel, and that a learned body of medical men

recently put forth the statement, that so far as its action on the liver is concerned, it is totally inert. If this be so, how is it when given in the disease under consideration, or in the cholera of adults in efficient doses, the colorless watery discharges are superseded by black or green discharges of consistent character, and under the continued use of the remedy become perfectly natural?

These are facts which I think can not be successfully denied.

Of course, in the treatment of cholera-infantum, there are other things to be looked after by the practitioner which will readily suggest themselves, but are of minor importance.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—OBSTETRIC PROCEDURES AMONG CERTAIN OF THE ABORIGINEES OF NORTH AMERICA. By E. McCLELLAN, M. D., Assistant Surgeon United States Army.

The "American Journal of Obstetrics" for February, 1872, contains an elaborate and learned paper on "Some Ancient Methods of Delivery" from the pen of Goodell, one of the most successful and accomplished gynæcologists of the present, who has abstracted from the works of the ancients some notable points of obstetric practice, which, although unknown to the mass of the Profession at the present day, are duplicated in the methods still in vogue among some of the inhabitants of the North American Continent.

During a tour of duty in the Valley of the Rio Grande del Norte, which extended from the year 1867 to 1871, I was frequently called into positions wherein the peculiar therapeutic notions of the inhabitants were exhibited. In addition to my own experience, that of many intelligent white and native residents were collated, with special reference to the gynæcologic history of the Mexicans and aboriginal tribes of this most in-

teresting portion of our country. The facts whereon this paper is based have been collected from—

1. *The New Mexicans*, who are the descendants of the Spanish conquerors of America, intermixed with all races and nationalities, who, inheriting the vices and retaining the therapeutic lore of their ancestors, look with suspicion and distrust upon "Gringo Medicine." With them the admixture of Americans has produced no elevating influences (I note the majority of instances), for the vast majority of white men who drift before the tide of civilization and swell the sum of frontier settlements, although swift and strong to strike when their sexual rights with wife or mistress are tampered with, are morally and physically debased, and in their progeny is shown the effect of procreating in defiance of hygienic laws.

The civilization of the Atlantic and that of the Pacific has been divided by a *terra incognita* in which ignorance and vice held high carnival; but into this region, beautiful as any lighted by God's sun, the flood of civilization has turned, and the converging lines of march from the East, from the South, and from the West, meet in the wondrous parks and sunny slopes of the Sierra Madre. Under the mighty sway of that true pioneer of civilization, the hardy American frontiersman, present usages will soon be numbered with the past.

From the necessities of their lives, among which mutual protection from Indian incursions and the irrigation of their grain-fields are conspicuous, the native inhabitants of New Mexico live in settlements along water-courses. Outlying farms until recently were unknown, and are now chiefly occupied by American settlers accustomed to depend upon themselves alone in any emergency. The villages are arranged around an open square or plaza; otherwise no attempt is made at order, each family locating their house (a hut) how and where it pleases them best. These houses are but one story in height, plastered and floored with mud. In the interior the vegas or rafters are exposed, and the roof, which is formed of boards, poles, or rushes, is covered from twelve to eighteen inches with earth.

They contain one or more rooms, ill lighted, badly ventilated, and heated by a small, peculiarly-constructed fire-place and chimney, which stands out into the room. In one of these rooms the family live, eat, and sleep. Separate sleeping apartments are unknown. Adults and children, married and single, servants and visitors, occupy colchons (the most comfortable and luxurious of beds), which are spread upon the floor of the common room.

Strange that in this nineteenth century the New Mexican host and his family are conscious of no impropriety in thus admitting strangers. The only outrage to sentiment they would be conscious of would be in the guest manifesting the the least interest in what might transpire around him during the night.

An indolent, sensuous race, of inferior intellect from faulty forebears, it is scarcely to be wondered that vice abounds. The men are lazy and licentious to such a degree that it is a common saying. "I love not my own wife, but all other wives." They are courteous and hospitable to a fault. "This house and all that it contains is yours" comes from the heart of your host at the moment of utterance, no matter what may be his designs upon you at a later hour.

In the outward life of the female the utmost decorum prevails. If the morals of the community are impaired, it is long before a stranger can avail himself of it. Liaisons are surrounded with difficulties and must be negotiated. A woman of the country living as the mistress of a compatriot or of an American considers herself his wife, and for the time devotes her person to him alone.

Among the lower classes the degradation of woman is an accomplished fact. The Spanish conquerors held their female captives as slaves for their sexual purposes, not infrequently adding the indignity of branding them with their owner's mark. Succeeding generations have but partially improved her condition; she is still the slave of her father, brother, or husband, who not infrequently prostitute her for their profit; and it is

only in the present decade that efforts at her social improvement have been made.

Among the better classes promiscuous sexual intercourse, as far as the unmarried are concerned, is almost entirely unknown. While parents upon one hand expose their children to imaginative excitation, they guard their persons with considerable care. Except in the larger towns, defiant prostitution is unknown.

Menstruation is established between the thirteenth and fifteenth year among those who constitute the better class; but among the lowest—those in whose lives scenes are constantly being enacted which rival in iniquity those reported by Cobden or Mayhew, or, lacking the refinements of vice, equal those of Constantinople or other Mahommedan cities—it occurs from one to two years earlier. Among such people additional arguments may be found to favor the theory "that precocious menstruation" *is* influenced more by licentious practices than by climatic influences or hereditary peculiarity. Nor in this case can the argument against such theory be advanced "that the utter depravity and promiscuous cohabitation of the lowest English peasantry and the lewdest classes in such cities as London, Liverpool, Manchester, and Birmingham does not induce precocious menstruation." It must be borne in mind that female children in such conditions are both underfed and overworked, while among the New Mexicans the children lead an idle life, with naught to distract them from their natural inclinations; that at an early age they become addicted to the use of tobacco; and that chile or pepper, green or dried, is an invariable condiment of all meals, and used to an excess that rivals the Indian use of curry.

Marriages occur at an early age, often before the menstrual functions have been established. Subjected thus early to the incidents of matrimony, the early menstrual months are periods of irregularity and suffering. Diseases of the uterus and its appendages are developed at an early period. More than one instance came to my knowledge in which ovulation was fol-

lowed by impregnation, but the wife never menstruated until one or more children had been borne.

The disorders to which these females are liable can in part be attributed to the neglect of hygienic laws and the indolent life which they lead. The surface of their body is rarely protected, save by a chemise, skirt, and shawl. Undergarments are almost unknown. The extreme altitude of the territories occupied by their race, the sudden and great variations of temperature to which they are exposed, are fruitful sources of uterine diseases, while the peculiar domestic relations and the stimulating diet which have already been noted, combined with the erotic imaginations of indolent vice, coöperate. "To excite, but always in vain, is to provoke disease, irritate the body, and desiccate the soul."

Abortions are rarely procured; sexual frauds (so-called) are never attempted; infanticide is almost unknown. Masturbation prevails to some extent among both sexes.

2*d*. *The Pueblo, Apache, Navajoe, and Ute Indians.*—In the year 1540 the Mexican Viceroy Mendoza, attracted by the wondrous stories of the Indians of Mexico, dispatched Coronada with an army to invade "the country of the seven cities." The Spanish commander crossed the Rio Grande, the deserts of New Mexico, wandered through the "Cibola or Buffalo Country," and, led on by the delusive stories of his guides, even crossed the mountain chain to the headwaters of the Arkansas. Retracing his steps, at last upon the banks of the Rio Puerco of the West, he came upon the Seven Pueblos of the Moqui Indians, so numerously inhabited that in 1850 they are reported as containing 10,850 souls. He here found a race identical with the Indians, who had been already conquered in Mexico, living in towns peculiar in their construction, and from whence their name was derived.

It is these Indians, of whose forcible conversion the romantic histories of the Spanish conquest teem, who once and again arose in strength and all but exterminated their oppressors. They still live in permanent settlements, cultivate farms, and,

although baptized in the ritual of the Roman Church, retain the language, dress, and traditions of their ancestors. They mix constantly with the other inhabitants of the country, but instances of intermarriage are rare.

The early history of the Apache Indians is involved in great obscurity. Their ancient lines of depredation correspond with those of to-day; and authorities make no doubt that to them should be attributed the destruction of that semi-civilization of which traces are to be found on the Rio Gila. Coronada found them to be as fierce, sanguinary, and treacherous as do the frontiersmen of to-day. Living in huts made of brush, they range through the headwaters of the Gila, in the Sierra del Mogoyen, where their rancheries are almost impregnable to their enemies, and where by a series of signal fires they muster bands of marauders.

Promiscuous sexual intercourse among the unmarried of the tribe is common. They are polygamists. The women are unclean and debased.

The Navajoes are undoubtedly a branch of the Apache tribe, although the date of separation is unknown, occupying a rugged, mountainous region, living in the rudest of huts, a drunken, worthless life. From a brave and warlike race they have degenerated morally and physically. The women are debased and prostituted to the vilest purposes. Syphilitic diseases abound.

The Utes, inhabiting the elevated plains of New Mexico and Colorado, are brave and warlike, but suspicious and perfidious. Polygamy exists among them. Their females are rigidly secluded from strangers, and they compare most favorably with those of the other tribes.

These Indian tribes, having been always hostile to other residents of the country, as well as to each other, have been accustomed to make an occasional truce with Mexican settlements, from which they receive many of the necessities of their lives, and for years a trade was carried on in the sale of peons or slaves of those unfortunates captured from each other. The

female peon invariably became the mistress as well as the drudge of the Mexican. She was held in perpetual bondage, save when a raid of her tribe might be made upon the settlement in which she was held, when possibly she might escape, taking with her all the impressions of her captivity.

A female captive of the whites or Mexicans rarely escaped. Should she survive the first atrocious sexual indignities to which she was subjected, she became the wife of some "buck" and the mother of his children.

In these tribes menstruation is established at from the fourteenth to the sixteenth year. Menstrual disorders are common, but they seldom reach the eye of intelligence. Menstrual superstitions abound. At this period the woman is "unclean;" "she must not remain in camp, but must live apart." They are married young, without reference to menstruation; pregnancies are delayed, and families rarely contain over three children. Twins, triplets, or monstrosities are almost unknown.

Among Indians pregnancy and parturition are fraught with the same dangers as they are to civilized women, although the exposed lives they lead prepare them to brave and overcome perils to which delicate women succumb. That easy and unassisted labors occur there is no attempt to deny. Indian women do step out from the line of march into the brush and at night come into the camp with a new-born child. Authentic instances are in our possession of delivery being effected in strange positions and under curious surroundings. One in which a Blackfoot woman, taken in labor at a frontier house, went out of doors to a sheltered position on a snow-bank, there delivered herself of the child, and returned to the house; another, of the Osage, who was taken in labor while on horseback and on the march; she delivered herself and dressed the baby, although her pony never left the trail; but it must be known that she was riding upon a large, broad pack, upon which she could recline. These cases, however, for heroism do not compare with the young woman whose case is related by Dr. Bas-

sett, who, unassisted, performed the Cæsarian section upon herself while lying upon a snow-drift.

The fact having been established that the destinies of these four families or races were at an early day influenced by the Spanish conquerors of America, who brought with them the practices and superstitions of the mother country; and who, to preserve the object of their lewd desires, if not actuated by sentiments of affection, would afford them assistance during parturition; it will not be wondered that we shall find among their notions of obstetric aids many similarities to the procedures which Goodell has collated from the ancients, even to the Homeric version of the posture assumed during labor by the mother of Apollo and Diana.

To the Mexican female, parturition is attended with greater danger than it is to those of more civilized races, on account of the extraordinary manipulations to which they are subjected by their attendants. The fact has already been noted that in the houses inhabited by them the rafters are invariably uncovered. In commencing housekeeping their arrangements would be incomplete without two strong iron hooks, which are driven into said rafters about two and a half or three feet apart. The location selected is generally a little off the centre of the roof and toward the fire-place and chimney, said hooks being destined to play an important part in the obstetric history of the family.

The patient having declared the occurrence of labor-pains, all the near friends of the family are summoned, male as well as female. Two stout ropes are secured to the afore-mentioned hooks, the floor beneath them is covered with undressed sheepskins, and upon these the patient kneels, with her thighs widely separated, her body maintained in its upright posture by aid of ropes. A male, selected on account of his strength, and to whom the term "el tenador" (the one who holds) is applied, now places himself on the floor behind the patient, encircles her waist with his arms, so that her buttocks rest upon his abdomen, and commences a firm, constant, and oftentimes violent press-

ure upon the uterine tumor. The midwife stations herself upon the floor, but in front of the patient. Her duty is now to knead, and, if too long a period occurs between the pains, to seize the abdomen with both hands and execute a series of spasmodic jerks. When not thus employed she constantly manipulates in order to soften the genitalia.

In this position and thus assisted the patient is kept until nature, assisted by the strength and awkwardness of the attendants, effects the delivery, or they become convinced that some other procedure must be resorted to. During all this time "el tenador" keeps up his pressure, increased when the pain comes on, and if possible never relaxed, so that the advance gained may not be lost. No care is taken of the perineum, nor does the idea occur to them that this may be necessary; they expect it to "rip," and if an unusual laceration occurs the patient suffers in silence.

The child having been delivered, the patient is placed upon her back and allowed to rest for a time. If the placenta be not expelled, they proceed to effect its delivery by strongly compressing the abdominal walls, by traction on the funis, and shifting the patient from one side to the other. When successful the woman is placed upon her bed with unchanged clothing, a long, narrow woolen band is wrapped many times around her abdomen, her head is bound with linen cloths, and she is ready to receive the congratulations of her friends.

As to the child, a rather curious custom prevails as to the treatment of the cord. It is cut from three and one half to four inches in length, a stout ligature is applied about one inch and a half from the umbilicus, when the midwife, with a brand of fire, proceeds to char and roast all that portion beyond the ligature. Many superstitions exist by which different communities are influenced as regards the treatment of the cord. All unite in affirming the necessity of adopting measures which will prevent the cord from ascending within the maternal abdomen, thus becoming lost, and if once lost the only guide to the "after-birth" is gone. Some midwives will not sever the cord

until the placenta is extracted; others make bold to do so, but always adopt the precaution of attaching the placental extremity by a stout cord to the thigh of the patient. So much for cases in which nature asserts her power and delivers the unhappy woman from her tormenters.

In cases where much delay occurs, or where after the labor has progressed a considerable time, the midwife can not feel the descending head, although profoundly ignorant of presentations and positions, she announces that some other procedure must be resorted to. Before adopting the more complicated of their devices they endeavor to soften the parts by applications of steam and smoke. To accomplish this a basin is filled with glowing embers, upon which is sprinkled a powdered aromatic root, the basin is placed between the thighs of the kneeling woman, and its exhibition is continued from twenty to thirty minutes; or a large vessel of water in which is placed certain herbs is caused to boil and the vapor to arise to the person of the patient. These simple means being ineffectual, the patient is caused to stand upright, when, several of the strongest persons present taking her by the shoulders and knees, she is violently shaken, which exercise is closed by a series of short, sharp, wrenching jerks. She is then again placed in the "ropes," and the squeezing process is resumed. Being still unable to deliver the child, the operation is repeated, and if still unsuccessful, it is varied by suspending the patient head downward, her person being held as in the preceding maneuver. Should these efforts be still unsuccessful, the midwife announces that it is necessary to change the position of the child. She proceeds to remove all articles of clothing from the lower portion of the patient's person. A large, shallow wooden bowl is placed over her abdomen and turned quickly from right to left with a grinding motion. Should this still prove ineffectual, a horseman is dispatched for the nearest American doctor, a rosary is placed about the patient's neck, and all present join in commending her to the saints.

San Ramon or La Nina (the Virgin) are the most powerful

to whom recourse can now be had; and as the doctor often lives fifty, sixty, or even more miles away, ample time is afforded for their intervention. If one will not help, in spite of candles or other offerings, the other will surely take advantage of his or her colleague, and lend his or her most efficient aid. But saints, even the best, seem at times disinclined to aid humanity, or they may be too much occupied with other affairs, when the only recourse the poor mortals can have is to discover the particular saint on duty at that particular time. A large candle is notched with the thumb-nail to ten, fifteen, or more equal spaces; each space is designated by the name of some saint; the candle is lighted, and as soon as it burns down to the allotted portion of the then well-inclined saint, he will help right willingly, and try his best to effect delivery before his short time melts away. But with the passing light of the candle wanes the strength and life of the poor patient, buffeted and distressed, rent by useless, senseless torture; and not unfrequently she passes to her final rest with a smile at last upon her tired, weary face, while the earnest, anxious doctor is galloping weary miles, trusting he may yet be in time to afford her some relief.

Of our professional brethren, he who devotes himself to the relief of suffering humanity in frontier settlements surely earns the brightest crown. The remarks of the President of the American Medical Association, at its last meeting, on the "pine-board hut" which served as home and office for the doctor of a Rocky Mountain railroad station, apply with equal cogency to hundreds of our Profession. To our mind arises the face of a valued friend, a pupil of the illustrious Niemeyer, who devotes his life to an almost missionary work among the Mexicans. Separated from his home and kinsmen, undeterred by the pangs of hunger or fatigue, undismayed by the dangers of field or flood, by day and by night, he renders to the ignorant and superstitious inhabitants professional services which in older countries would secure to him the smiles of fame and fortune.

The description which has been given is the modern practice of obstetrics among these people. Until quite recently the obstetric chair or stool was in vogue among them. Of what the ancient stool consisted we have been unable to learn; the modern was a large chair, in which "*el tenador*" first seated himself; then the patient squatted upon his knees, with the inevitable arm and rope accompaniment.

The obstetric customs of the Pueblo Indians closely follows that of the Mexicans, if they are not in all points identical.

The Apache woman, when labor commences, is placed in a small hut and left to herself. Should her band be upon the move, sufficient food is left for her, and she is abandoned to her fate. If the labor terminates favorably, as it most always does, she regains her party. But instances are known in which scouts through the country infested by these Indians have discovered the remains of mother and child in these isolated huts.

The Navajoes, from being many years in a state of subjection, have adopted many of the customs of the Mexicans. A fatal termination of labor is rare. The parturient female assumes the posture of the Mexican in similar cases, and is supported by a lariat thrown over the limb of a tree, or she supports herself from a low branch. But the assistant is now in front, and aids the woman during pains by a finger inserted at the umbilicus, from which point pressure is made steadily upon the fundus uteri.

The Ute female in summer accomplishes her labor in the open air, squatting or kneeling by a tree which they may conveniently grasp. They are assisted by a band passed around their abdomen, and which is managed by an old woman. Lingering labors are treated as by the Mexicans, with the exception of rapid and violent changes of position, the patient being suspended in a blanket or robe.

To what accident may not a parturient female of these nations be subjected? To them the promise is indeed fulfilled: "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children." But the same

Almighty power to whom the devout Arabian physician ascribes the determining cause of labor—"At the appointed season labor comes on by the command of God"—carries the majority successfully through their trials.

A friend, who has acquired a considerable obstetric experience among their people, remarks: "It is surprising with how little difficulty girls of fourteen or fifteen years of age are delivered in childbirth. It is by no means an unusual occurrence for a labor to be terminated in six or less hours, and the only difficulty experienced is in persuading them to remain recumbent a sufficient time."

Hæmorrhagic labors are frequent. The American physician is most frequently called from that cause; and also to deliver the placenta. Nor is it surprising that inertia or irregular contractions should succeed the treatment to which the patient has been subjected.

Thrombi of the labia and vulva are frequently met with; while ruptures of the uterus, situated fortunately most frequently at the cervix, are by no means rare. Two cases of fracture of the ribs from the violence of attendants came under our notice.

For retained placenta the midwife has no remedy save binding a cord around the abdomen of the patient, and this, with an occasional dose of a powder obtained by burning the ears of a freshly-killed hare, is the only means at her command for arresting hæmorrhage. Tradition, in the settlement of Socorra, points to an old woman who was taught by a Padrê to take the after-birth by the hand; but she was probably a myth. At all events she has left no successor.—*Trans. Ken. State Med. Soc.*

ART. II.—INVALID CLIMATES COMPARED—CONDENSED METEOROLOGICAL REPORT by FRANCIS S. MILES, of the Climate of the towns of Anaheim, Prepared from Observations taken Daily at 8 A. M., 1 P. M., and 6 P. M., Including Thirteen Months, from July 1, 1872, to July 31, 1873.

July, 1872—Hygrometer, average difference between wet

and dry bulb, 7⅙°; thermometer, average temperature, 72¾°; maximum, 83°; minimum, 66°. On five days the temperature was above 80° at 1 P. M. Bright sunshine, 30 days; cloudy and rainy, one day.

August, 1872—Hygrometer, average difference between wet and dry bulb, 8°; thermometer, av. temp., 72¾°; maximum 94°; minimum, 68°. For nine days the temperature was above 80° at 1 P. M., and on two days above 83°. Bright sunshine, twenty days; sunshine and clouds, ten; cloudy all day, one.

September, 1872—Hygrometer, av. difference between wet and dry bulb, 8 1-10°; thermom., av. temp., 74°; maximum, 90°; minimum, 62°. Five days temperature was above 80°, on one of which it was above 83° at 1 P. M. Bright sun shine, twenty-eight days; sunshine and clouds, one; cloudy all day, one.

October, 1872—Hygrometer, av. difference between wet and dry bulb, 8⅓°; thermometer, av. temp., 69¼°; maximum, 96°; minimum, 58°. On four days the temperature was above 80° at 1 P. M., and on one of these it was above 83°. Bright sunshine, twenty-seven days; sunshine and clouds, four days.

November, 1872—Hygrometer, av. difference between wet and dry bulb, 11⅞°; thermometer, av. temp., 68°; maximum, 85°; minimum, 55°. On six days the temperature was below 60° at 8 A. M. Bright sunshine, twenty-six days; sunshine and clouds, three; cloudy all day, one.

December, 1872—Hygrometer, av. difference between wet and dry bulb, 6⅛°; thermometer, av. temp., 62°; maximum, 77°; minimum, 50°. Bright sunshine, seventeen days; sunshine and clouds, six; cloudy all day, eight. Rain on two days and four nights. On five days the temperature was below 55° at 8 A. M. Strong wind, one day.

January, 1873—Hygrometer, av. difference between wet and dry bulb, 7⅞°; thermometer, av. temp., 63¾°; maximum, 80°; minimum, 50°. On six days the temperature was below 55° at 8 A. M. Bright sunshine, nineteen days; sunshine and clouds, eight; cloudy all day, four. Rain two days, and strong wind two days.

February, 1873—Hygrometer, av. difference between wet and dry bulb, 4½°; thermometer, av. temp., 57⅓°; maximum, 75°; minimum, 44°. On fifteen days the temperature was below 55° at 8 A. M. Bright sunshine, seven days; sunshine and clouds, thirteen; cloudy all day, eight. Rain on nine days.

March, 1873—Hygrometer, av. difference between wet and dry bulb, 6⅜°; thermometer, av. temp., 64⅛°; maximum, 81°; minimum, 54°. On two days the temperature was below 55° at 8 A. M. Bright sunshine, twelve days; sunshine and clouds, thirteen; cloudy all day, six; strong winds, two days.

April, 1873—Hygrometer, av. difference between wet and dry bulb, 9⅜°; thermometer, av. temp., 64¾°; maximum, 87°; minimum, 48°. On four days the temperature was below 55° at 8 A. M., and on four days above 80° at 1 P. M. Bright sunshine, twenty-one days; sunshine and clouds, eight; cloudy all day, one.

May, 1873—Hygrometer, av. difference between wet and dry bulb, 7¼°; thermometer, av. temp., 65½°; maximum, 86°; minimum, 57°. On two days the temperature was above 80° at 1 P. M. Bright sunshine, sixteen days; sunshine and clouds, nine; cloudy all day, six.

June, 1873—Hygrometer, av. difference between wet and dry bulb, 7⅛°; thermometer, av. temp., 70°; maximum, 91°; minimum, 60°. On five days the temperature was above 80° at 1 P. M. Bright sunshine, thirty days.

July, 1873—Hygrometer, av. difference between wet and dry bulb, 8¼°; thermometer, av. temp., 73°; maximum, 100°; minimum, 62°. On eight days the thermometer rose above 80°, and on three days above 85°. Bright sunshine, twenty-eight days; sunshine and clouds, two; clouds all day, one.

CONDENSED METEOROLOGICAL RECORD, TAKEN AT MENTONE, FRANCE, DURING DECEMBER, JANUARY, AND FEBRUARY, BY FRANCIS S. MILES, OF NEW YORK, OBSERVATIONS TAKEN AT 8 A. M., 1 P. M., AND 6 P. M.

December—Hygrometer, av. difference between we tand dry

bulb, 5½°; thermometer, av. temp., 49°; maximum, 62°; minimum, 37°. Bright sunshine, ten days; sunshine and clouds, eight; cloudy all day, thirteen; rain, twelve; strong winds, two.

January—Hygrometer, av. difference between wet and dry bulb, 6°; thermometer, av. temp., 48°; maximum, 61°; minimum, 36°. Bright sunshine, eighteen days; sunshine and clouds, four; cloudy all day, nine; rain, nine; strong wind, seven.

February—Hygrometer, av. difference between wet and dry bulb, 6¼°; thermometer, av. temp., 48°; maximum, 61°; minimum, 33°. Bright sunshine, sixteen days; sunshine and clouds, seven; cloudy all day, five; rain, seven; strong wind, seven.

CONDENSED METEOROLOGICAL RECORD, TAKEN AT AIKEN, SOUTH CAROLINA, DURING THE WINTER OF 1870–71, BY FRANCIS S. MILES, OF NEW YORK, OBSERVATIONS TAKEN AT 8 A. M., 1 P. M., AND 6 P. M.

December, 1870—Hygrometer, av. difference between wet and dry bulb, 4°; thermometer, av. temp., 45°; maximum, 61°; minimum, 18°. For ten days the thermometer averaged below 40°. Bright sunshine, fifteen days; sunshine and clouds, six; cloudy all day, ten. Rain on four and snow on one of the the above cloudy days. Strong winds on eight days.

January, 1871—Hygrometer, av. difference between wet and dry bulb, 6°; thermometer, av. temp., 55°; maximum, 69°; minimum, 33°. On eleven days the thermometer averaged below 45°. Bright sunshine, fourteen days; sunshine and clouds, ten; cloudy all day, seven; rain on three and strong winds on eight days.

February, 1871—Hygrometer, av. difference between wet and dry bulb, 5°; thermometer, av. temp., 57¾°. maximum, 80°; minimum, 38°. On six days the thermometer averaged below 45°. Bright sunshine, twelve days; sunshine and clouds, six days; cloudy all day, ten; rain, seven; strong winds, sixteen. The winter of 1870 and 1871 was considered a remarkably fine one for Aiken.

RECAPITULATION.

During December, January, and February at Anaheim an invalid could have been out of doors all day, 81 days; confined in doors by bad weather, 9 days.

At Mentone during the corresponding months, there were of fair days, 67; there were of bad days, 23.

At Aiken during the corresponding months, there were of fair days, 53; there were of bad days, 37.

At Anaheim, rain 13 days, strong winds 3 days. At Mentone, rain 28 days, strong winds 23 days. At Aiken, rain 14 days, snow 1 day, and strong winds 32 days.

DEGREE OF DRYNESS.

At Anaheim, average difference between wet and dry bulb, $6\frac{1}{3}°$; at Mentone, 6°; at Aiken, 5°.

TEMPERATURE.

At Anaheim, average temperature, 3 months, 61°; maximum, $77\frac{1}{3}°$; minimum, $49\frac{2}{3}°$.

At Mentone, average temperature, 3 months, $48\frac{1}{3}°$; maximum, $61\frac{1}{3}°$; minimum, $35\frac{1}{3}$.

At Aiken, average temperature, 3 months, 53°; maximum, 70°; minimum, 30°.

OUR CLIMATE—COMMUNICATION FROM MR. WILLIAM R. OLDEN ON THE CLIMATE OF ANAHEIM, AS COMPARED WITH OTHER NOTED INVALID RESORTS.

[From the Anaheim Californian of August 16th, 1873.]

All leading physicians agree that a dry, tonic, stimulating atmosphere is most desirable in all cases of depressed vitality, as contrasted with the enervating and debilitating effects of a moist, sultry climate.

In Southern California really sultry weather is unknown, dryness is the prevailing characteristic of our atmosphere. Invalids invariably gain flesh and strength rapidly, more particu-

larly when they have discovered the location suited to their case.

Anaheim is elevated 150 feet, and the still more elevated parts of the valley, next to the foot-hills, have an elevation of about 250 feet above the sea level. In consequence of the dryness of our atmosphere, 100° Fahrenheit is not so oppressive as 80° in the Atlantic States, and the invariable coolness of our nights are an agreeable contrast to the smothering and oppressive closeness of the summer nights in all the country east of the Rocky Mountains.

The cause of our peculiar climate is, that during the winter season the ocean and land temperature are about equal, therefore during the cooler months we have not nearly so much wind, a desirable feature. But during the warm season the cool air of the ocean (averaging 60° Fah.) rushes to the heated interior valleys, and thus gives to our summers their delightfully cool, refreshing and invigorating climate. It can not fail to be seen at a glance that there is really no comparison between Anaheim, Aiken and Mentone, and that it is the most absolute folly to cross the Atlantic in search of an invalid climate, when we have in Southern California the best and most equable of climates in the world. I say climates, for there are many of them, and whilst they are all good, of their kind, the different locations present such an infinite variety that it seems to be impossible that an invalid can fail to find a location possessing the temperature and degree of moisture suited to his or her particular case.

In the Valley of the Santa Anna and the country adjacent, all these different shades are found; and the observations taken at Anaheim may be considered as a fair average for the section. As we go from Anaheim to the sea (thirteen miles) the moisture increases and the temperature diminishes, and on the other hand, as we go from Anaheim to the hills (six miles) the moisture diminishes and the temperature increases.

Mr. Francis S. Miles has been a consumptive for fifteen years, and has spent several winters in the best climates of the south

of Europe, vainly endeavoring to recover his health; has made a study of invalid climates, and has applied the tests, the hygrometer and thermometer, to every place at which he resided. He found it to be the rule, that invalids whose health had been improved by a residence in the south of Europe, generally lost all they had gained by the change from land to sea and from sea to land on the voyage home. Southern California can be easily and comfortably reached by land, and by making the change at the proper season, invalids can reach their homes with renewed health, and without any loss of what they have gained. In three years at farthest the completion of the Southern Pacific and Texas Pacific Railroads will make it only a week's travel from any part of Southern California to the most distant portions of the Atlantic States.

The poor, as well as the rich, can avail themselves of the curative advantages of our climate. People can and do live comfortably in a common, rough board shanty. Food and other necessities are as cheap here as in most parts of the country; there is a constant supply of fresh vegetables, with fruits and melons in season. Our hotels are comfortable, and charges moderate. Families can board, or keep themselves as they choose.

Numerous invalids have spent a few weeks or months in various parts of the Valley, and all of them have been benefited. Some, like Messrs. Miles, Saxton, Fields and others, have taken up their permanent residence here; others have gone home with the full determination of at least spending their winters here, but as will be seen by the table, our spring, summer and fall climate is as superior to the changeable springs, sultry and enervating summers, and frosty falls, as to the detestable winters of the North and East. Those who have the requisite means can surround themselves with oranges, vines and flowers, and make life one continued enjoyment. This does not require much money, as land is cheap and water abundant. With these requisites all fruits of the temperate and semi-tropic zones flourish exceedingly.

Unlike other winter resorts with semi-tropical climates, we are absolutely free from malarious, epidemic and endemic diseases. This is probably owing to the refreshing and delicious sea breeze which blows with unfailing regularity from 11 A. M. until night, for eight months of the year.

ART. IV.—THERMOMETRIC OBSERVATIONS IN CHOLERA. By Dr. FRANK ERMANN, of Hamburg, Germany. Translated by RICHARD BRANDEIS, M. D., Louisville, Ky.

Dr. Frank Ermann, of the General Hospital of Hamburg (Germany), has taken advantage of the late cholera epidemic in that city, and has made a number of observations on the variations of temperature in cholera patients.

The number of cases under observation are over thirty, but even this limited number has proven that they are of sufficient interest to permit of publication.

The curves noted in the fisrt twenty-five cases which came under treatment were so much alike, the cold state was so regularly connected with high fever, that he confidently expected to find cholera in the chilly stage to be constantly accompanied with febrile symptoms. His later experience did not justify his expectations.

The height of the fever in the more recent cases (the highest temperature being 100.75°) contrasted markedly with the cases observed previously, including the recoveries; and of late he has even observed an entire absence of fever during the duration of cholera.

He does not believe that the early hypodermic injection of the muriate of quinine caused any marked depression of temperature; but thinks that a less intense infection may be the cause of this phenomenon. The mortality in these cases was a comparatively small one. The case in which there was entire absence of fever, and which ended in death, was accompanied with graver intestinal lesions than any other one examined.

Fever appeared first at different times. In one case, in a man who was first taken ill at 1:30 A. M., the temperature had already reached 100.40° at 5 A. M. Measurement being taken in the rectum in another case which was attacked at 3 P. M., without any premonitory symptoms, the temperature had already reached 103.64° at 9 P. M. On the other hand, many hours may elapse before fever sets in. In twenty of the cases observed, in which rectal measurements were taken as soon as they were received in the hospital, fourteen hours elapsed before the temperature began to rise. In twenty-one cases received, in which fever was noticed on reception, six to fourteen hours had elapsed since first seized.

The following report of cases may illustrate the course of the fever:

CASES ENDING IN DEATH.

1. H. S. found his landlady, whom he had left quite hearty in the morning, lying in extremis from cholera. The woman died at 8 P. M. on July 25th. The patient spent the night at his brother's, and at 3 A. M. was attacked with severe diarrhœa; vomiting ensued in the morning; no premonitory symptoms. Received at 9:30 P. M; 10 A. M., anxious countenance, slightly cyanotic; cold; breath warm; trunk warm and extremities partly so. In rectum 101.12°; pulse 120, regular, and strong; cramps in the calves commenced. 11 A. M. oppression; rice-water discharge; rectal temperature 102.56°; axilla 101.12°. 1 P. M. pain in hypochondriac regions; pulse 140; rectum 104.36°; axilla 101.48°; 3 P. M., rectum 104.36°; 4 P. M., 105.98°; 5 P. M., 106.52°; 7 P. M., 106.16°. Patient soporose, restless; 9 A. M., rectum 106.10°. Burning heat on the inner side of thighs for an hour past; axillary temperature 102.20°. The thermometer barely reached its maximum after $3\frac{1}{2}$ minutes. 11 P. M., rectum 107.24°; 1 A. M., 107.96°, and death. The thermometer was reïntroduced into the rectum immediately after death and showed 107.60°.

2. Dorothy L., aged 36, attacked on July 26, 10 P. M; since

7 A. M., July 27th, cramps in calves. On reception, at 12 M., cold and clammy face; cold feet; trunk, arms, and hands warm; pulse 116; rectal temperature 101.48°; painful cramps, causing faintness. 5:30 A. M., cramps present until 4 P. M.; no other complaint; rice-water discharge; no vomiting. 8:45 A. M., rectum 103.28°; pulse 106; very restless; 11 A. M., more restlessness; 8:15 A. M., patient died at 5:30 A. M.

3. Dorothy B. has had discharges for some days. July 27th, 12 P. M., profuse discharges and vomiting. Received July 29th. 12 M., wasted appearance; face and body cyanotic; rather cold; radial pulse 140, irregular, and small; vagina 102.20°; axilla 98.6°. 2 P. M., vagina 102.73°; axilla 100.40°; pulse very indistinct, apparently over 160; no vomiting; watery stool in bed; respiration very slow, only 24; audible expirations; occasional movements of head, and consciousness when cramps set in. 5 P. M., vagina 104°; axilla 99.68°; thermometer lying eight minutes. 7 P. M., vagina 105.26°; axilla 100.40°; respiration 36; coma; no previous jactitation. 8 P. M., same condition; vagina 106.34°; axilla 103.66°. 8:55 P. M., death; entire body cold; vagina 107.60°; axilla 104.72°. 9:50 P. M., vagina 107.60° maximum height; axilla 104°.

4. Jennie Luer, aged 26, received July 30th. In the house where the patient lived, two children, one of them her own, aged nineteen weeks, had suffered from eliminative diarrhœa, which terminated in the death of both of them. Patient has had diarrhœa for two days, no fever, and but little appetite. During the night preceding her reception into the hospital, she was attacked with profuse diarrhœa and vomiting and the characteristic cramps in the calves of both legs. 9:15 A. M., cold tongue and face; breath warm; nates and extremities cold; pulse 140 and small; vagina 101.84°; axilla 99.66°. 10:48 A. M., eyes closed and resting well; vagina 103.10°; axilla 100.76°. 12 M., no radial pulse; vagina 102.92°; axilla 102.2°; 1 P. M., vagina 104.54°; axilla 101.48°; 2 P. M., vagina 104.90°; axilla 103.28°; 3 P. M., vagina 105.44°; axilla 104°; 4 P. M., vagina 106.88°; axilla 104°; 3:30 P. M. death ensued; vagina 107.24°.

An hour and a half after death the thermometer reached a height of 107.16°.

CASES OF RECOVERY.

1. Peter Shroeder, aged 23, received July 14th. At noon, on the previous day painless diarrhæa set in. On the 14th very profuse discharges and obstinate vomiting; cramps. 11 P. M., radial pulse, small and irregular, 108; great thirst; feeling of oppression. At this time temperature was 96.80°; not known whether axillary or rectal, probably the latter. 1. A. M., rectum 102.20°; 5 P. M., 102.65°.

July 15th, 7 *A. M.*—Temperature remained high since midnight; pulse soft, 120; head cool; oppressive feeling continues; continual murmuring. Rectum, 102.92°; 9 A. M., 102.20°; 11 A. M., 102.20°; 1 P. M., 102.56°. Since 11 o'clock the thirst has been less marked; patient more quiet at 12:30, and evacuated 10 ccm. slightly albuminous urine in which, aside from fibrinous casts and epithelium, spermatozoa were found. 3 P. M., rectum 102.56°; 5 P. M., 101.12°. Bilious discharge from intestines. 7 P. M., rectum, 100.76°; 8 P. M., patient more easy; complains of heat; pulse tense, incompressible, 108. 9 P. M., rectum, 100.96°.

July 16th.—Temperature has fallen during the night.

July 17th.—Entire absence of fever during the day previous, as well as to-day; urine slightly albuminous, 13.50 ccm.

July 18th.—Urine 26.50 ccm.; 7 P. M., rectum 101.12°. From this day on there was regular fever in the evening, and after the 22d lasting through the entire day. The abdomen was sensitive; fœtid, grayish green discharges were common, indicative of extensive ulceration of the intestinal mucous membrane; this was checked by July 30th.

2. John Schurr, 55 years, received July 31; a thin, poorly nourished individual. Had diarrhœa since 29th instant. Last discharge of urine on the evening of the 30th inst. Received on July 31, 3 P. M., about eighteen hours after first attack. Patient's body cool, cyanotic, and aphonic. Pulse distinct and

100. Rectum, 99.68°; axilla, 97.88°; 5 P. M., rectum, 99.68°; 6 P. M., rectum 101.12°; 7 P. M., rectum 101.30°; axilla, 98.60°; 8 P. M., rectum 101.84°; axilla, 100.40°; 10 P. M., no radial pulse distinguishable; 11 P. M., rectum 102.20°; axilla, 100.40°. Rests well, only occasional cramps; dyspnoea not very marked; internal heat the most distressing symptom. 1 P. M., rectum 102.02°; axilla, 100.40°; 2 A. M., rectum, 101.66°; 3 A. M., rectum, 101.30°; axilla, 100.04°; 4 A. M., rectum 101.30°; 5 A. M., rectum, 101.30°; axilla, 98.96°.

August 1st, 7 A. M.—Patient is entirely free from fever.

3. Claude B., 25 years of age, July 30; first taken on the morning of the same day with violent vomiting, diarrhœa and cramps. At 6:15, pulse 140; rectum, 101.66°; axilla, 100.04°; respiration, 20; 7 P. M., rectum 101.84°; axilla, 100.40°; 9 P. M., pulse, 148; rectum, 102.92°; axilla, 101.12°; 10 P. M., pulse 148–160; rectum, 103.28°; axilla, 102.20° respiration, 24. At this hour jactitation set in. 11 P. M., rectum, 103.64°; axilla, 102.56°; 1. A. M., rectum, 103.26°; axilla 101.84°; 2 A. M., rectum, 102.20°; axilla, 101.12°; 5 A. M., rectum, 102.02°; axilla, 100.04°; 7. A. M. rectum, 100.04°; axilla, 99.32°. Until 3 o'clock the patient was very uneasy; at this time a sudden amelioration of all symptoms; after this there was almost entire absence of fever. The first evacuation of urine took place at 3 P. M. on July 31; on the third day albumen disappeared, and there was a copious discharge, 43.00 ccm. The pulse did not go down as rapidly as the temperature. On the first day when there was no fever pulse was—7 A. M. 132; 9 A. M. 128; 12 P. M. 120; 5 P. M. 108; 11 P. M. 84.

To these two kinds of cases, in the first in which the patients died when the fever was at its greatest height, in the second of which they entered into convalescence, he well adds a third set of cases, which, like the second, show a regular rise and fall of the temperature, but where fatal collapse sets in after the temperature had again become normal.

4. Sophia M., aged 25, received July 31. Her husband was

attacked by cholera on the 27th, and was received into the hospital at the same time that she was, he being entirely free from fever, with profuse diuresis and a pulse of 80. Their child, aged 15 months, was attacked on the day of reception; found in collapse with a rectal temperature of 99.68°; soon after, however, it revived, with a temperature of 100.76°—103.46°, but died that evening at 11:30.

The other was found covered with cold perspiration, lying in a semi-conscious condition, complaining of occasional cramps in her calves.

1. P. M., vagina 100.24°; axilla, 98.24°; respiration, 28; pulse 120; 8 P. M., vagina, 100.76°; axilla, 98.60°; 9 P. M., vagina, 101.12°; 11 P. M., vagina 101.12°; axilla, 99.32°. Resting quietly; several watery discharges; pulse risen to 140, but weaker; $\frac{1}{3}$ gr. mur. quinine injected hypodermically at 8 and 9 P. M. There was a gradual rise of temperature during the night.

5 A. M., vagina 102.92°; axilla, 101.12°; 8 A. M., vagina, 103.28°; axilla, 101.48°. At this time the radial pulse was entirely absent. Patient was very restless, turning from side to side; muscular cramps; intense thirst; pain in epigastrium.

The temperature taken on August 1st was as follows: 7 A. M., vagina, 102.92°; axilla, 101.48°; 8 A. M., vaginia, 102.56°; axilla, 101.12°; 9 A. M., vagina, 102.56°; axilla, 101.44°; 10 A. M., vagina, 102.20°; axilla, 101.12°; 11 A. M., vagina, 103.10°; axilla, 101.94°.

Entirely pulseless; cyanosis more marked; very restless. Put in a bath of 89° F.

12 o'clock, vagina 102.20°; axilla, 100.04°; felt better after the bath; skin warmer and moister. 1. P. M., vagina 102.20°; axilla, 101.12°; 2 P. M., vagina. 102.56°; axilla, 100.63°; 3 A. M., vagina 103.90°; axilla, 101.12°. Injection of $\frac{1}{2}$ grain mur. quinine. 4 P M., vagina 103.28°; axilla, 101.48°; 5 P. M., vagina 103.46°; axilla, 101.12°. Injection of $\frac{1}{3}$ grain mur. quinia. 6 P. M., vagina 102.28°; axilla, 99.94°; 7 P. M., vagina 102.02°; axilla, 99.58°; 8 P. M., vagina 102.38°; axilla, 99.94°; 9

P. M., axilla, 99.32°. Since 3 P. M. radial pulse was perceptible every now and then. The cool baths which the patient longed for were given twice during the afternoon, as well as the quinine, but did not materially check the lowering of the temperature. The vomiting ceased during the afternoon. The jactitation increased during the night.

August 2d.—Early in the morning of this day the radial pulse was full—160 beats. No vomiting during the night. The patient had several greenish involuntary passages. The patient received large quantities of port wine, as well as ether and camphor. During this day, temperature: 9 A. M., vagina 102.02°; axilla 99.94°; 10 A. M., vagina 110.68°; axilla 99.94°; 12 M., vagina 110.68°; axilla 99.32. Comatose since 11 A. M.; labored breathing—44; pale, livid skin. Death ensued at 12:30.

This was the only case in which there was entire absence of any febrile disturbance.

5. Wm. Larsen, aged 25, received August 5th, a well-nourished, muscular individual, has had diarrhœa since the 2d, vomiting since 3d. During the night previous to reception, diarrhœa increased; cramps since 3 A. M. At 8:15 A. M., the body is warm, slightly cyanotic; marked contractions of the muscles of the thigh; painful cramps; rectum 98.6°; axilla 97.4°; pulse 92; received five injections of $\frac{1}{6}$ gr. quin. mur. At 9 A. M., rectum 97.88°; 11 A. M., 98.99°. The cramps still persist; marked oppression of the sensorium; given a bath of 30° R.=100° F., and was wrapped up in flannels. 5 P. M., temperature has gradually risen to 99.50°; pulse 104.

August 6th.—Patient was very restless during the preceding night; sat up in bed occasionally and wanted to leave it; cyanosis more marked; had seven passages up to 6 A. M., the last three containing blood. At this hour the pulse was imperceptible; complained of difficulty in breathing. There was a gradual fall of temperature, and the patient died at 8 A. M. A short time after death the temperature was 95.54°

No blood was found in either the ilium or colon at the post-

mortem. The lower bowel was very much congested, and ecchymoses were observed here and there. Peyer's patches not very much enlarged. The follicles were very prominent on the entire mucus surface. The heart was, in contradistinction to all other cases, contracted; numerous ecchymoses were found beneath the endocardium of the left ventricle.

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

In the Physiological Section of the British Association two important addresses were read on Friday (last week); one by the President, Prof. Rutherford; and the other by Dr. Ferrier.

Professor Rutherford commenced by giving some very sensible advice to the microscopists, to the effect that, instead of wasting their time on the markings of Diatoms, they might far more advantageously learn, under competent teachers, the proper mode of examining the tissues of the lower animals, in which line of research much useful work might be done and many important facts elicited. Few will feel disposed, we think, to differ from Dr. Rutherford's suggestions; at the same time it may be offered as a fair excuse for the numerous papers on the capabilities of special lenses and mechanical arrangements that have recently appeared in the pages of the microscopical journals, that whatever improves the microscope and renders its performance more certain renders it a more valuable, because a more reliable aid in histological investigations; whilst something is gained for future research if, out of half a dozen possible interpretations of some peculiar appearances presented by lines or dots on a particular shell, it can be shown that one is beyond all doubt correct. Dr. Rutherford would, we are sure, be one of the first to admit that the vast improvements made in the construction of microscopes of late years have proved of the very highest service in the development of both

anatomical and physiological science. The Professor proceeded to speak out boldly against the doctrine of a vital principle, the absurdity of which he exemplified by referring to the poisonous action of strychnia on the nervous system—a poison that the so-called vital principle seems incompetent to remove or antagnise, though, if it possessed the intelligence attributed to it, it would either prevent the absorption of so potent an agent or in some way protect the nerve centres from its action. There can be little doubt that our knowledge of what, to cover our ignorance, we term vital actions or operations will gradually be extended in proportion as our acquaintance with the laws of physiological chemistry and physiological physics become more profound, and it will then be more and more clearly seen that the phenomena now attributed by some to a vital principle are in reality due to the general laws of molecular action. He next alluded to the importance of a study of pathology for the due comprehension of many facts in physiology; and showed that some great physiological facts, as the crossed action of the brain, had been ascertained by pathological research. Dr. Ferrier's investigations were then referred to; and Dr. Rutherford made an eloquent appeal to those who are possessed of wealth and of a desire to apply it for the benefit of society—that, in view of the wholly unselfish and philanthropic character of physiological labors, they could not do better than follow the admirable example set by Miss Brackenbury in endowing a physiological laboratory in connection with Owens College in Manchester. He concluded an excellent address by showing the benefits to the community at large that may be anticipated both from an advance of physiology and from a diffusion of a knowledge of its leading facts amongst the people.

Dr. Ferrier's address was occupied with an account of his late experimental investigation on the localization of functions in the brain. Part of these researches have already appeared in the "Medical Reports of the West Riding Lunatic Asylum." In this paper he has established the broad fact, that by the electrical stimulation of certain regions and convolutions of the

brain in dogs, cats, and rabbits, very definite combined or purposive movements can be called forth in the head, limbs, or tail. The anterior portions of the hemispheres appear to be the chief centres of voluntary motion, and their action is crossed. Irritation of one corpus striatum causes rigid pleurosthotonos on the opposite side. The optic lobes, or corpora quadrigemina, besides being concerned with vision, are centres for the extensor muscles of the head, trunk, and legs, irritation of these centres causing opisthotonos. The cerebellum is the coördinating centre for the muscles of the eyeball, each separate lobule (in rabbits) being a distinct centre for special alterations of the optic axes, and it is easily intelligible how these lesions may lead to disturbances of the equilibrium of the body. The optic thalamus, fornix, and the hippocampus major and convolutions grouped around it, have no motor signification, and are probably connected with sensation. These results obtained from the above-mentioned animals were, we understood, to be contrasted and corroborated, or otherwise, by experiments on monkeys, but unfortunately the reports of Dr. Ferrier's paper in the newspapers we have received are not sufficiently detailed to allow of any positive statements being made. At all events, such physiological researches as these proceeding from an English laboratory present an exceedingly satisfactory sign of the times, and will, we hope, be the prelude to many others of equal value.—*Lancet.*

CONTRIBUTIONS. By Prof. PAUL F. EVE, M. D., Nashville, Tennessee.

A Peculiar Ulcer in Asia Destroyed by Potassa Fusa.—From Dr. Parkes' Address on Medicine before the British Medical Association, last August, we make the following extract of a very singular affection:

"The Delhi or Damascus sore, the Aleppo evil, and other names have been applied to a disease which is spread over all

the East, affecting men and dogs, and which, though not fatal, is yet in the highest degree harassing and discomforting. The discovery of the cause and its cure we owe to Dr. Fleming, of the Army Medical Service, and it is a good instance of the great use of the microscope in the hands of a competent man. Dr. Fleming found, as a constant element in these rodent ulcers, a small cell—its nature is quite doubtful; no kind of plant can be developed from it, and it is presumably of animal origin; it contains nuclei, and grows marvellously fast, though whether by cleavage, or budding, or exosmotic transit, so to speak, of small cells through its wall has not been made out. By pressing in and absorbing the nutrition of the skin, it soon destroys portions of the surface, and forms most unsightly and painful ulcers. That this cell is the cause has been proved by repeated inoculations. It is very tenacious of life, and resistent to chemical agents, hence the uselessness of the common plans of local treatment, which have been so repeatedly tried without effect. The only cure is at once to destroy the cell with potassa fusa. In a few days a sore which has been open and extending for months is cured as by magic. The cure is infallible, and if this plan of Dr. Fleming is carried out, he will have the merit of having at once obliterated a disease which has been a plague for hundreds of years, and neither spared the great Aurungzebe in his Hall of Paradise, nor the meanest pariah who was no more than useless dust beneath his feet."

In the same journal we have the address on Surgery by John Wood, Professor of Surgery in King's College, London, and therefore the associate of Sir William Fergusson, now the president of the British American Medical Association.

Professor Wood truthfully states that "pyæmia, septicæmia, and erysipelas are undoubtedly the greatest troubles of modern surgery. Without their baneful influence the success of our improved methods would be enormously increased. By their occurrence the best-laid plans go wrong, and may end in the death instead of the restoration of the patient; and this is more deplorable when, as often happens, the operation is one

which is not absolutely necessary to save life, but to remove a disability which might be an ill 'better to bear than to fly to others that we know not of.' When, therefore, a system of dressing wounds is brought before us, sanctioned by worthy names and supported by the results of cases, which offers to us a means of escaping these terrible enemies, it is our bounden duty to give it a full and fair trial.

"Such is the antiseptic system of dressing wounds originally developed by Lemaire in 1860 and 1865—thus adding one more to the many benefits which our coal-fields have conferred upon humanity in the use of coal-tar, and its derivative carbolic acid, as an application to wounds. As long ago as 1815 French chemists had proved the antiseptic qualities of oil of tar. As long ago as 1834 Runge discovered carbolic acid and its properties. Such is the slow growth of real improvement. Coal-tar itself, made into an emulsion with saponine by Lebœuf, and combined with plaster of Paris by MM. Corne and Demeaux in 1858, has continued to be used by French surgeons, and has lately been employed in combination with charcoal by Beau, of Toulon ("Du Traitement des Plaies," Baillière et Fils, Paris, 1873). A great impulse was given in this country to the use of carbolic acid, combined with the exclusion of air, by Professor Lister, in February, 1867, as is well known to the Association from its exposition by that talented surgeon at the meeting at Plymouth. Since that time, in common with, I believe, many London surgeons, I have given his system, I hope and believe, a fair trial at King's College Hospital. At the same time, side by side, and under the same conditions as far as could be obtained, I have employed the solutions of carbolic acid in oil and water, and those of other antiseptic substances, such as chlorozone, metallic salts, etc., as a dressing, but without the elaborate attempts to exclude the unpurified atmospheric air which Lister deems essential.

"I shall not attempt, gentlemen, to discuss the question of atmospheric germs, or of in-dwelling bacteria-like bodies and their influence upon disease. This question is one of a far

wider nature than can be conveniently discussed here, and it includes many other departments than that of surgery. In common with, and in relation to the question of suppuration in general, and its connection with tubercle, it can only be solved by the prosecution of those lines of research in pathology and medicine which have been followed so skillfully by Drs. Burdon Sanderson and Wilson Fox, and which are, I believe and hope, proving to be lines which converge towards an important discovery. As an experimental and scientific mode of research, which may turn out to be also a converging line in surgery, I have the highest possible respect for Professor Lister's system of treating wounds. Upon his theory of germs it is consistent and simple enough; but it is, as a practical method of treating open wounds, available under ordinary circumstances in hospitals and private practice, in emergencies, and on the battle-field, that it must be estimated and ultimately take its place; and it is with that view that I have put it as far as possible to the test. I began it at a time when the hospital was in a good hygienic condition, and the cases for that time did admirably. I had some cases quite equal to any described by Prof. Lister himself. I at the same time tried the application of dry lint, without any moisture whatever, to the wound; and in many cases, especially in breast cases, the results were also perfect. In one breast case union by adhesion occurred throughout the wound. I also tried the application of the chloride-of-zinc solution in the manner originated by Mr. De Morgan, and very good results ensued—viz., healing with the formation of little or no pus.

He is, however, favorably inclined to give a full and fair trial to Mr. Lister's antiseptic treatment for injuries, and speaks of his own success with it, but states that erysipelas does not seem to be much influenced by it."—*Lancet.*

Hydrate of Chloral in Incontinence of Urine.—T. S. Maccall, M. D., etc., 1st Royal Lancashire Militia, says: "I gave it a fair trial, commencing with ten grains twice daily, increasing the dose to thirty grains twice daily. After six days' treat-

ment the two cases were completely cured, and at the end of the training the men had been constantly at duty without any return of the complaint. I think it right to mention this, that others may have the opportunity of testing it."—*Lancet.*

Radical Cure for Hernia by Wire Suture.—Mr. Wood then proceeded, with the patient under chloroform, to cut down on the sac. The sac was then opened, and the bowel exposed, which was of a dark chocolate color. The neck of the sac was then nicked, but the bowel could not be returned, and it was evident that some other cause of strangulation existed. The incision therefore was extended upwards and outwards, and the bowel was found to be constricted by having passed through an aperture in the omentum. On this being divided the hernia was easily reduced.

The rupture was what is termed a congenital hernia—that is to say, the knuckle of small intestine that was strangulated was in contact with the testicle, the tunica vaginalis forming the sac.

After reduction had been effected, Mr. Wood passed the wire in the ordinary way through the pillars of the ring, in order to effect a cure of the rupture. The wound was brought together with sutures, and carbolic dressing applied. The bowel may be judged to have been strangulated from ten to twelve hours.

March 24th.—Slight sickness. Temperature 100.5°F. Slept four hours.

25th.—No pain; has not been sick again. Temperature normal; pulse 108.

26th.—Dressings removed. Wound looks healthy, a great part of it having united by first intention.

April 7th.—Wires removed; wound healed except where the wires were.

10th.—Slight pain and swelling about the seat of operation, which is flushed. Poultices to be applied, and sulpho-carbonate of iron to be taken internally.

14*th.*—Pain, redness, and swelling gone. The sinuses remaining where the track of the wire lay are healing up.

27*th.*—Patient discharged cured.—*Lancet.*

The New Hotel Dieu of Paris.—While in Paris last August, I was told that this hospital, then nearly completed, was like the elephant drawn in a lottery; for its location, centre of the old Roman city, was so unhealthy that the authorities did not know what to do with it. By a recent notice in the "Lancet," however, we learn it was determined to finish the buildings and adapt them for hospital purposes, and we notice among these are halls and chambers for *twenty-four house surgeons.*

Enlargement of the Tonsils as a Cause of Nightmare.—In the "British Medical Journal" of June 7, Dr. J. W. Howard relates the case of a girl of thirteen years in whom attacks of nightmare were cured by the removal of enlarged tonsils. The attacks came on generally about an hour after going to bed.

Interesting Sequel to Operation for Ovarian Disease.—With reference to the successful case of ovariotomy reported by me in a previous number of the "Journal" (February, 1873), I wish to state that the patient enjoys most perfect health, and has regular painless menstruation every month. At that period the lower part of the wound (where the pedicle was clamped) reöpens, and from it there is an oozing of blood during the three days that the catamenia lasts.—*Dublin Journal.*

Note.—Quite a similar case exists in this neighborhood—that is, at each menstrual period there is an oozing of blood at the point where the pedicle was secured in the abdominal wall.—P. F. E.

Oleate of Mercury in Syphilis.—Mr. Berkely Hill has employed this preparation in a large number of cases, and finds that it is very active, and sometimes excites violent smarting pain when the 30 per cent. solution is used. But the 20 per cent. or 10 per cent. solution, or the oleate of mercury and morphia may be continued as an application on even very sensitive skins. The great advantage of the oleate over any other

form of mercury, when externally applied, lies in the rapidity of its absorption, and if, for example, a little of the 20 per cent. solution be gently rubbed night and morning over syphilitic papules, it is surprising how rapidly these decrease and grow pale under its use.—*London Practitioner.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—FEMORAL ANEURISM—DELIGATION OF EXTERNAL ILIAC ARTERY—RECOVERY.

By GEORGE CUPPLES, M. D., San Antonio, Texas.

On the evening of December 31, 1872, Pedro Mester applied for advice for a swelling in the upper part of the left thigh, which, at the first glance, was recognized as femoral aneurism. The patient, aged twenty-six, above the middle height, muscular, without superfluous flesh, has heretofore enjoyed good health. While raising a heavy weight three months ago, "felt something give way in his groin"; very shortly after which there appeared a small pulsating tumor in the upper part of the thigh of the size of a walnut; this increased very gradually in size until after his arrival here, fourteen days ago, notwithstanding the fatigue of a journey of a thousand miles and the labor incident to the care of his team of ten mules.

In the last ten days the increase of size of the tumor has been very rapid, and it now occupies the whole of the upper part of the thigh, approaching closely with its prominent and rounded end to Poupart's ligament, and extending down in the course of the femoral vessels. Pulsation and bruit well marked at all points of the tumor, which is very elastic, but becomes less tense when the artery is compressed against the pubis. The limb is œdematous throughout its whole extent, but no pain has ever been felt, though some inconvenience has been

experienced from numbness and formication. The thigh is bent on the trunk and the leg on the thigh so that there is considerable lameness. The nature of the affection having been explained to him, he readily consented to submit to an operation, which was postponed in consequence of the intense cold of the weather.

January 2d.—Night before last excruciating pain of the whole limb set in, which still continues; œdema much increased; limb bandaged with flannel from toes to tumor; to take at once an ounce of castor oil, and at bedtime twenty-five grains of chloral hydrate, to be followed in the morning by an enema. Patient admitted to the Hospital of the Sisters of Charity.

January 3d.—Tumor has increased in size so as to bulge against Poupart's ligament; œdema much diminished; bowels thoroughly evacuated; rested well; affected limb colder than its fellow. Dimensions left thigh: Circumference, $26\frac{1}{2}$ inches; right, $18\frac{1}{2}$ inches. Longitudinal measurement of tumor, $7\frac{3}{4}$ inches; transverse do., $8\frac{1}{2}$.

There was evidently no time for any trial of compression, forced flexion, or cold, and deligation of the external iliac was determined on. It is true the rapid growth of the tumor left little hope that the collateral circulation should have had time to be established, and thus the consequent danger of gangrene, the most frequent of all causes of death after this operation, would be enhanced; but there was no choice left me consistent with prudence.

At noon, Drs. Bedford Sharpe, F. Hagenberg, A. Ansell, Chew, and Denton present and assisting, an incision three and one-fourth inches in length, commencing at a point one and a half inches above the spine of the os pubis, and one and a half inches external to a line drawn perpendicular to that process, was carried to a point one inch internal to the anterior superior spinous process of the ilium, dividing in succession integuments, cellular tissue, superficial fascia, external oblique, internal oblique, and transversalis abdominis muscles; the hæmorrhage from

branches of the superficial epigastric was trifling, and required no attention. The fascia transversalis was now raised with forceps and divided to the full length of the external incision; on completing the division at its lower end, a gush of arterial blood took place from the severed epigastric artery; a ligature was speedily applied, and the hæmorrhage effectually checked. The peritoneum was reached by lacerating the cellular tissue with the finger and thrusting aside the glands; the vessel was now arrived at, and being steadied by the finger and thumb of the left hand, an aneurism needle was inserted on the inner side by an opening made by the finger-nail, and brought out by a corresponding opening on the outer side, and the ligature placed around the artery without any disturbance of its connections; pulsation in the tumor ceasing on pressure over the vessel, the ligature was secured and one end cut off. The wound was closed with three iron-wire sutures, and covered with charpie saturated with weak carbolic oil.

Patient recovered readily without nausea from chloroform.

4 P. M.—Pulse 78; temperature, popliteal space, sound side, 98°; left side 97.2°; limb warm; complains of some pain in limb; œdema nearly gone. Tumor diminished in size, elastic and not doughy to touch; no pulsation at any point of limb. To have morphia sulph., grain $\frac{1}{4}$. 10 P. M., slight venous oozing.

January 4th, 8 A. M.—Patient passed a quiet but sleepless night; suffers no uneasiness, save a feeling of tightness in lower third of leg; tumor diminishing; still elastic; limb warm; pulse 98, full and soft; temperature around popliteal space, 99.5°; left popliteal space, 97°; appetite good; circumference of thigh 24$\frac{1}{4}$ inches. Longitudinal measurement of tumor 5 inches; transverse do., 6$\frac{1}{2}$.

4 P. M.—Has some fever. To take every four hours:

Sig.—Ammonia Acetatis, ℥i;
Tincture Hyoscyami, ℥xv.

8 P. M.—Temperature on both sides, 99.5°; pulse, 98; feels comfortable.

In the morning of the second day after the operation the temperature of the affected side was half a degree higher than that of the sound limb, but the following morning was the same on both sides; and three-fourths of the wound united by first intention. From this time he went on well, the ligature coming away on the eighteenth day, and on the thirtieth day he was discharged. The limb at this time measures 22 inches; the tumor has not altogether lost its elasticity, and is yet of the size of a large orange. He walks without inconvenience, the extension of the limb being perfect.

February 10th.—Patient was seen to-day; walks well; tumor still elastic, and without further diminution.

June 1st.—Has returned from a journey of 1,500 miles, driving his team. Suffers no inconvenience whatever. Tumor has very much diminished in size, though still perceptible. Well.

ART. II.—CASE OF FRACTURE OF THE PELVIS—UNION IN ELEVEN WEEKS. By J. A. LARRABEE, Louisville, Ky.

On the morning of February 8th, 1873, three laborers entered a pit which had been dug for an ice-cellar, for the purpose of walling it. Shortly after they had entered the pit, a large portion of one side came in upon and completely buried them. Help being at hand, a vigorous attempt was made to reach and rescue these unfortunate men. Finding an uplifted hand, all efforts were directed to this spot, and a timely entrance of air was afforded, but the other two were more deeply covered, and when exhumed, were quite dead, being found in a horizontal position.

Mr. Fritz Obenthnier, the rescued man, was taken to his home, and medical aid immediately summoned. When I saw him he was still suffering from shock. Stimulants were given by my direction, and heat applied by means of hot-water bottles, bricks, etc. After a time he rallied sufficiently to reply to

questions, and complained of pain in all parts of his body. He could move all his limbs excepting the left thigh, and the position of the feet was proper. An attempt which I made to abduct the left thigh caused him to cry out lustily and complain of great pain in his back; a careful measurement showed no shortening, and rotation was perfect in both limbs. There was no less prominence of the trochanter, and I could not get any crepitus by applying the ear over the trochanter and having the limb extended and rotated. After some time spent in careful examination, having satisfied myself that he had no fracture of the femur either within or outside the capular ligament, and having found no other fracture in other parts of the body, I ordered him to be stripped, washed and freed from any particles of sand which adhered to his clothing, and sponged in arnica lotion from head to foot, promising to return in a short time and see him.

At 4 P. M. found him resting comparatively easy, and feeling much better for sponging; all the pain complained of arises from the hips and back, and is very severe low down over sacrum; and pain is increased by grasping the thigh upon its inner aspect. I now felt quite certain that if any fracture existed, it must be of the pelvis.

Dr. Holloway, of this city, assisted me in further examination. It being necessary to turn the patient over, the pelvis was grasped by the two hands. Upon doing this, distinct crepitus was felt, and great pain produced. Any pressure made over the pelvis gave pain. By placing one hand over os pubis and the other over the sacrum, audible crepitus was obtained. Considering it impossible for a single fracture of the pelvis to admit of so much motion, a further exploration of the finger in the rectum was made, it being cleansed by injection. By carrying the finger upward along the ascending ramus of the ischium, the exact seat of the pubic fracture was easily reached, and by seizing the tuberosity of the ischium, the bone intervening could be freely moved. The following fractures were made out—viz., a fracture through the descending ramus of

the pubis near its junction with the ascending ramus ischii; 2d, A fracture of the body of the ischium near lip of the acetabulum (probably in the groove for the obturator externus muscle); 3d. And upon the right side a fracture of the horizontal ramus of the pubis about its middle.

He passed urine with little pain, and rested well on an opiate which was given during the night. Having obtained a water-bed, I put him upon it, placing a broad band about the pelvis, with pads corresponding to seats of fractures.

Upon the fifth day after the accident he was seized with a severe pleuritis upon the right side, and sibilant râles were heard all over the left lung. His dyspnœa was great. I was obliged on this account to remove him from the water-bed, which was otherwise comfortable to him, and make the best of a poor bed—folded blankets and the like. During this attack I almost despaired of saving him. There was some swelling in the perineum, but no extravasation of urine, and no occasion to resort to the use of the catheter throughout the whole case. Notwithstanding he received the kindest attention at the hands of his friends that his immovable position would admit of, an extensive bed-sore formed upon the right buttock and over the sacrum, which became filled with grayish, dirty sloughs, and excavated to the depth of half an inch.

After the usual treatment, with the comfort of air-pads, water-cushions, etc., (poultices and stimulating washes applied), I determined to try the mild galvanic current.

A piece of silver rolled and hammered to the thinness of paper was cut and fitted to the sore, this was connected with a piece of zinc six by four inches by means of a small copper wire, insulated by winding with silk thread. The zinc plate, moistened with chamois leather wet in vinegar, was applied to the inner part of the thigh, and the silver plate to the sore on the same side, the circuit was thus completed through the sore. This was worn throughout the twenty-four hours, with the exception of removal for cleanliness. At the end of the twenty-four hours a marked change was apparent in the condition of

the sore. The granulations became prominent and healthy, and in eight days from the application this extensive sore was entirely healed.

Bony union was complete on the 3rd of April, and on the 15th of April he was able to go about with crutches; he is now walking well with a cane.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

POST SURGEON'S OFFICE,
FORT MCPHERSON, NEBRASKA, Oct. 16, 1873.

Prof. E. S. Gaillard:

Esteemed Sir,—On the 26th of last April Mr. C., band-leader of this post, came into my office and asked me to hasten to the bedside of his wife, whom he had just left. I hurried to his quarters, and found the woman rolling in agony upon the floor, crying and shrieking loud enough to be heard across the parade ground.

I at once gave her a hypodermic injection of morphia ($\frac{1}{4}$ gr.), which gave her almost immediate relief; she then stated that she had a stricture of the rectum of six years' standing, and that during that length of time she had not had a passage free from pain, and that she was growing continually worse, often having to spend from six to ten hours at a time in the water closet. Just before her husband came for me she had, while at stool, experienced great pain, with inability to have a passage, and while straining felt "something give way," as she expressed it, and in a few minutes afterward had felt a stinging pain in the rectum and hips, which increased to almost maddening agony, until relieved by the morphine.

I examined the rectum and found it nearly closed by a membranous partition about an inch from the anus. After much

trouble I succeeded in passing a small probe through an opening in the membrane, and found above and resting upon it a large mass of hardened fæces. I at once prepared an enema of soap, sugar, and warm water, and after an hour's patient labor, managed to inject nearly a pint of the liquid through the small tube of a family syringe; I also administered two ounces ol. ricini and left her, with instructions to retain the enema as long as possible.

When I visited her on the following morning she informed me that her bowels had moved twice during the night, and that the pains had ceased. I had one of the Government mechanics to make for me a very small but highly-tempered pair of forceps, bent to fit the rectal curve, and after insinuating the points into the orifice I gradually opened them until the membrane began to tear, and then placed a cork between the handles to keep the blades distended, cautioning the husband not to allow them to be removed until my next visit. After a few hours had passed I removed the instrument, and found that the opening had been materially enlarged. I pursued this plan of treatment for nearly two weeks, giving corrosive sublimate, quinine and brandy internally, with great apparent improvement. I also kept the bowels open with ol. ricini, and thought that I was doing "just the thing" for her, when I was ordered in the field for twenty days. I ordered her to continue the above treatment until my return, thinking that the septum would be broken down and absorbed upon my return; but when I visited her twenty days after, I found that the oil had become so offensive to her that she could not retain it in her stomach an instant; an abscess had formed in the anterior wall of the rectum and had burst into the vagina, leaving a recto-vaginal fistula through which the fæces passed in a small, thread-like form at each movement of the bowels. The rectum had also become so sensitive that she could not use the forceps. The idea that I was intended for a second Gross at once forsook me, and I began to think that diseases of the rectum could not be cured as easily as I at first supposed. The woman at this time

told me many things in regard to her case which she had before withheld, hoping that she could be cured without the pain or danger of an operation. She stated that she had been operated on twice—once in St. Louis, and once in Harrisburg. She seemed perfectly familiar with each operation, and said that the stricture had been scratched or nicked with a knife, and dilated with sponge-tents and bougies. I placed her upon tonics and nutritious diet for two months (keeping her bowels free, and used dilators with negative results); but the pain experienced during nearly the whole time, together with the drain from the fistula, kept the patient emaciated and low-spirited.

The woman declared that she would sooner die than live in such misery; and at last I consented to operate, after fully warning her of the danger that would attend the use of the knife. I devoted much of my spare time while treating this case in reading various authors on diseases of the rectum, and was particularly attracted by a very forcible and beautifully written article by Dr. F. D. Lente, of Cold Spring, N. Y., in the July number of the "American Journal of Med. Sciences;" and as the "nicking operation" had twice failed in her case, I determined to perform linear rectotomy in accordance with the views of M. Verneuil, Lente, and Mason.

After due preparation, I proceeded to operate on August 10th, assisted by Drs. Flint and McGhee of the Army. The patient was etherized, when the rectum, through which it was barely possible to insert a very fine probe, was cut away. I then introduced an index finger, well oiled, and found an annular stricture nearly half an inch wide. Not having any instruments suitable for the operation, I had previously prepared a narrow-bladed bistoury by winding thread around a portion of the blade, and by the aid of a small grooved director succeeded in cutting through the posterior wall of the band. I then used the index finger of the left hand as a guide, and cut the band directly in the median line anteriorly, being careful throughout the operation to avoid cutting the external sphincter.

My finger then readily passed through and beyond the first stricture, when I was astounded to find another band about half an inch above the first. After a few moments for consultation, I decided to divide the second as I had the first, and fearing that the upper portion of the band was in close proximity to the sigmoid flexure, and to avoid wounding its lower part, I cut from before backward until I had severed the band posteriorly, when I was able to use my finger as a guide for the anterior incision, which was made like the preceding, directly in the median line. To our great satisfaction we were then able to explore the rectum its full length, and found it distensible to rather more than its normal size. After satisfying myself that all hæmorrhage had ceased, I stuffed the rectum with soft carbolized candle-wick, rolled into balls about an inch in diameter. I inserted four of these balls, allowing the end of the "wick" to hang out, marked in regular order, so as to enable me to remove them in the order in which they were placed. Upon returning to consciousness, I gave her one grain gum opium every two hours, notwithstanding which she complained bitterly of a bearing-down pain caused by the close contact of the last ball with the sphincter. I removed one ball by pulling upon the end of the string, and it unrolled within the rectum and came away without causing any great amount of pain. She then fell asleep and rested at intervals during the night, only complaining of a slight smarting when awake (caused by the carbolized oil in contact with the cut surfaces). I remained at her bedside until the next morning, when I left her quite comfortable.

I visited her several times during the following day, and as night approached she began to complain of pain in the abdomen. I found her pulse running 130 per minute, her lips dry, and tongue furred. I gave her fl. ext. aconite rad. and Norwood's tincture every three hours until the febrile symptoms had subsided; also, opium, one grain, several times during the night; and when I left her at 7 o'clock the next morning she was feeling much easier.

The case rapidly improved under the above treatment (I forgot to mention that I ordered broths and slops as her appetite began to return), and on the fourth day after the operation I removed the other balls and administered two ounces of castor oil with twenty drops each of tr. opii and oil terebinth, which moved her bowels freely and with less pain than she had experienced for years. I then inserted the forceps, and found that they could be made to distend the rectum to its proper size without the least force or inconvenience. I used the instrument for five hours each day for one week, then an hour each day for ten days, when I found that the wounds had almost entirely healed by granulation. I discontinued the use of the forceps, placed the woman upon iron, cinchona, and brandy, with the happy result of improving her general health; and at the present time she is having natural, healthy, and painless movements of the bowels; the fistula has healed, and the cure may be pronounced almost complete.

The quantity of blood lost in the operation, which lasted about twelve minutes, was not more than two ounces, almost wholly venous, with a slight admixture of pus from the anterior wall of the rectum.

I have tried to be as brief and plain as possible in writing this letter, which is written because complete division of rectal stricture is almost a novelty in surgery, having been performed (according to Lente) but few times successfully in either Europe or America. If this letter brings forth the ideas of some of our great minds, I will be more than repaid for my labor.

I am, dear teacher, yours with respect,

D. F. Powell, M. D.

Selma, Ala., August 27, 1873.

Mr. Editor—Is it consistent with the spirit of that code of ethical law which, as is everywhere and universally admitted, contains rules which should govern the members of the Medical Profession in their intercourse with each other, and teach them

the character and extent of the obligations due the community in which they may happen to reside, to engage in controversial discussions of professional questions in secular or non-professional journals? It seems to me that serious objections might be urged to the indulgence of this practice. It is true that these discussions are often indulged in by the ablest members of the Profession; by men eminent for talent of a superior order; who are distinguished among their professional brethren for extensive and varied acquirements; the discussion may be ably maintained on both sides; equal learning and ability displayed. But they differ—radically and glaringly differ—and upon points, too, which are generally considered settled, or ought to be so, and about which there should be no question at issue; and who is to decide between them? Do they expect the general public, to whom appeals are thus made, to arrive at a just conclusion or render an intelligent decision? Can it be expected that anything more than a meagre portion of the readers of the daily Press is capable of appreciating the arguments advanced in these discussions, or that anything more than a mere approximation to the truth can be arrived at touching points of difference thus exhibited? To expect the readers of the newspapers of the day to be capable of appreciating these learned arguments, or of understanding these scientific questions, or questions of a strictly professional character, we must give them credit for an amount of learning which it must be admitted few communities are entitled to. It must be supposed that they have some scientific knowledge, some familiarity with technical language. In the absence of these qualifications, why, it may be asked, resort to such a medium of communication, and why address such an auditory? Can any good to the community at large or to the Profession be expected to result from such a procedure? It seems to me that nothing but a negative answer can be given to this question. There is one thing, however, which any community can see and which none fail to notice and appreciate—and that is the difference of opinion always prominently conspicuous in these dis-

cussions—learned as these disputants are generally admitted to be, they differ, and one or the other must be wrong, notwithstanding his learning and ability, and it is very naturally concluded that if such men entertain incorrect opinions all must, to some extent at least, be unworthy of confidence; all medical knowledge uncertain, and the Profession unreliable, because, governed by no fixed rules or settled opinions, and thus public confidence is impaired and the usefulness of the Profession diminished. It is a well-known fact, that parties engaged in these discussions in the newspapers of the day, no matter what their character for fairness and moderation may be, are too apt to be tempted into the use of unbecoming personalities, totally inconsistent with the high moral tone which should at all times and under all circumstances distinguish the deportment of the Medical Profession. This indulgence never fails to lower the Profession in public estimation, and should, therefore, if for no other reason, be avoided.

In professional journals disrespectful personal allusions would be excluded, and hence the importance of confining the publication of the discussion of professional subjects to professional journals. Even more reprehensible is the practice of prescribing for whole communities through the local Press, regardless of the stage of the disease or the condition of the patient. Advice so given is too apt to mislead the sufferer and to cause him to rely upon a deceptive security, and to neglect means that might secure his safety. It is unquestionably the duty of the Profession to freely give advice on all questions of a sanitary character, and to aid, as far as possible, in the prevention of disease, and this may often be done through the Press, but the treatment of disease is a different thing.

There is, however, another view of this subject, which shows the interest and honor of the Profession to be more immediately concerned. Gentlemen engaged in these discussions place themselves prominently before the public and become conspicuous; they get full credit for whatever of learning and talents that may have been revealed, and it may be for more than is de-

served, and become notorious as the "leading men" of the Profession where they reside; as superior, and therefore to be preferred to the more modest and retiring but equally meritorious members of the Profession in the same community, who seek not to display their merits in so conspicuous a manner. In this way these discussions serve as a good advertisement for the parties engaged in them, by which advantage may be obtained in the contest for public favor over those who neither have the taste nor the inclination to adopt such a course. If viewed in its proper light, it would be difficult to perceive any less objectionable feature characteristic of the practice to which attention is hereby directed, and the advertisement of the superior qualifications of an individual to treat a specified disease or class of diseases. Both are equally violative of the code of ethics, and both should therefore be discouraged.

Your views upon this subject would be read with interest if published in a future number of the Journal. A. G. M.

LELAND, LASALLE CO., ILL., 1873.

E. S. Gaillard, M. D.:

Dear Sir,—I was pleased to see the testimony on behalf of atropia, as given by Dr. Saunders, in the July number of your Journal. Its adaptation to the treatment of cholera had occurred, presumedly, to my mind upon reviewing the usual remedies or modes of treatment when the disease first appeared this summer. So little satisfaction having attended the treatment pursued, of whatever kind, I had determined to try atropia should opportunity offer. My reasoning on some of its physiological effects had led me to use it in cholera-infantum and certain forms of diarrhœas these three years, and the decided results of fl. ext. bellad. in these affections naturally led me to presume upon their utility in cholera. One child, treated with this remedy for cholera-infantum in July last, who was considered almost hopeless by its parents, was discharged as doing well after four days; but after three or four weeks it was taken again, and now nostrums were tried, but these failing to benefit,

another doctor was called. And why *another?* Simply because the mother took umbrage at my giving medicine which produced a *flush* on head and chest, notwithstanding I had previously told her that the flush would appear and the serous discharge disappear consequently. Now it is constantly expected to die, and is given up by the M. D.

Speaking to a person of the abuse, other than being simply set aside by this family, he asked if it was the medicine that acted so in the case of his child last year. Well, said he, it acted like a charm; but he would have been provoked had I not told him it would produce the flushed condition.

I want now to submit the following case, and to ask for information in relation to the same:

In August, one Mr. —— died rather suddenly and in a manner that gave rise to a very general suspicion that he had been dosed too freely with a sleeping mixture. Troubles of a domestic nature had been harassing his mind; his family had left him; he had been of intemperate habits, yet not so much so as several others in town. Just a week before his death he was noticed by a neighbor to be exceedingly polite and graceful in manner in a conversation they had after their stores were closed for the night. Suddenly —— asked the friend if he saw those little urchins who were so nimbly dancing in the corner yonder. For two or three days yet the most that the callers in his store noticed was that he acted sometimes a little peculiarly. But two days before his end he was noticed to be very much engaged with the nimble little fellows that he said floated about him. Now his doctor was called, and the following recipe ordered:

℞.—Hydrate of Chloral, ℥j.;
Cinnamon Water, ℥iij. M.

Sig.—One tablespoonful every hour in whiskey.

When this recipe was first given I do not know, nor how many doses he had taken when sleep supervened; but he was at his boarding hotel at 4 P. M. for some dinner, only three or

four hours before he slept never to awake. He died at about midnight, to the surprise of his attendants. His physician said he died of apoplexy caused by over-eating. But then it is not shown that he did eat much on that day. The question arises among the people, "Did he take too much chloral?"

For my own satisfaction I considered the question, and hence saw the recipe, and calculated the number of tablespoonsful in the mixture. A tablespoon borrowed from the druggist gave a little over five to the three ounces; one of my own, in ordinary use, gave six. The smallest in the house of the deceased gave a little over seven times the full of it.

Now I know that one-drachm doses of chloral are not uncommon in tetanus; but knowing what Stillé says of the treatment of delirium tremens by chloroform, I ask if the treatment with eighty grains chloral every hour is judicious, to say the least? Yours, truly,

THOMAS SOLLIS, M. D.

NOTE.—No one fully informed in regard to the history of large doses of chloral will hesitate to declare that the patient herein described was probably destroyed by the reckless (if not criminal) doses prescribed for him. Whether the physician of this unfortunate man really killed him by malpractice, can only be determined by ascertaining the number of doses taken. The hallucinations and illusions of the patient can not, most assuredly, be accepted as indicative of approaching apoplexy in any of its forms. It is most natural to believe that the man was on the verge of delirium tremens, and lost his life by taking a prescription most recklessly and inexcusably given.—ED.

LACONA, KY., October 10, 1873.

Dr. E. S. Gaillard:

Dear Sir,—In an article for a former number of your Journal, I stated that I had sent between eight and nine hundred circulars and petitions, with blanks attached, to as many physicians in different counties of the State, asking them to circulate the petitions and obtain the signatures of officials, ex-officials, the pulpit, bench, bar, the doctors, and as many influential citizens

as they could, and return the petitions thus signed to me by September 20th.

The result is, up to October 13th, I have received petitions from twenty counties, embracing sufficient signatures to control twenty-eight votes in the House of Representatives and a relative number in the Senate.

As there are over one hundred members in the popular branch of the Legislature, we are in a sad minority, and all the labor done in favor of a Registration Law will be lost unless the physicians in the counties arouse and fill up and forward petitions to me before the meeting of the General Assembly in December. Fortunately there is abundant time to accomplish this, if the physicians will only bestir themselves.

The doctors of the southern and lower end of the State have been particularly remiss. This was unexpected, for when the Kentucky State Medical Society met at Paducah, we were assured of hearty and prompt coöperation by all of the physicians present from that section. I regret to say that I have received but one petition from the three counties in which my colleagues reside.

Without assistance promptly rendered by the physicians in the several counties from which I have not received petitions, we must fail to obtain the law.

Can it be true that the apathy of the doctors of Kentucky will cause them to lose another opportunity to secure Registration in the State?

Shall it be said that there are more doctors in Jefferson county in favor of a Registration Law than in all the State beside? My brethren, let us go to work and fill up the petitions and secure the law; or shall we continue to read novels and talk politics in our leisure hours?

Epidemics stalk over the land decimating whole populations; the wail of the widow is continual; eleemosynary institutions are overflowed with orphans; there is neither sufficient nurses for the dying nor decent burial for the dead? Shall we arm ourselves with the statistics of Registration, by which to ward

off such calamities in future, or shall we imitate the ostrich; or, like the poor Indian and Arab, say "God wills it, and there let the matter end?" Shall we wait as stupidly for another scourge as the horses wait for another epizoötic?

In the able Registration Report of the State Registrar, Dr. S. M. Bemiss, for 1861, he says: "Whatever may be the leading motive on the part of State governments in directing annual inquiries and reports in regard to the social statistics of their population, whether to protect their citizens in the possession of their legal rights or to confer upon them the highest practicable enjoyment of health be the paramount intention, there can be no question that an investigation of the causes of mortality, and the best means of preventing sickness and death, founded upon the information obtained in these returns, is the most noble and beneficent application that can be made of such advantages."

There is, in truth, no other department of vital statistics which concerns all members of society so deeply as that which relates to mortuary records. Scarcely a death occurs which does not awaken, in some circles at least, inquiry into the cause and attending circumstances. In this report we have the causes and some of the facts respecting 10,000 deaths which occurred in the various social circles of Kentucky in the short space of twelve months; we have also an assurance that this is but about half of the whole number which actually occurred; but even the number reported here is sufficiently large to prompt careful examination, both public and individual, into the causes. It should be borne in mind that the report of the mortality of 1859 is not a matter of mere historical interest; the same causes that removed 20,000 persons from the theatre of life in 1859 took off a similar great army in 1860, and are still persistent, ever operative, and will demand an equal number of recruits for 1861 and 1862, unless the science and skill of man stay their action. These facts call for a full and faithful exposition of the causes of death, and devolves a responsibility upon the officer conducting this exposition whose great importance

is well set forth in the following extract from a foreign paper:

"There is something grand, almost epic, in the employment of the Registrar-General of deaths. Throughout the year he has ever open before him the great book of death, which at stated times he casts up, and tells the nation what progress the great reaper has made among us. Unperplexed with the complicating reports which paralyze the judgments of those who watch the fatal shears of Atropos from lower heights, he is enabled at every quarterly period to show where the hand of the destroyer has lain heavy upon city or county, where he has passed lightly by, and where the science and attention of man have loosened his hold over all but those who legitimately succumb to his final power. Without such an officer we should never know how we were fighting the great fight with disease. Public rumor, with her hundred tongues, would exaggerate our epidemics, as she did in the olden time; and the minor causes of death would be passed, which strike so many, but which leave such slight traces upon the public mind.

"Pondering over the great volume of mortality, the Registrar-General puts his finger on one corner of the map and shows that, in Bradford, man, using his reason and philanthropy, has within the last few years driven away the too frequent visits of the destroyer. During the ten years, 1841 to 1851, death struck down no less than twenty-six in the thousand. Then man came to the rescue of his fellow; a limit was put to the long hours of toil; some of the processes which tended to enervate the inhabitants were replaced by machine work, which can not feel; the water and the sewerage were attended to; and to use the practical words of the Registrar-General, 'through the incessant noises of machinery are often heard as the day declines pleasant voices singing the concerted songs of the Bradford minstrels.'

"These influences, moral and physical, now tell their tale in the great book of life and death he reads out to the nation; and instead of a mortality of twenty-six in the thousand, we are informed that for the past three years the death rate in the town

has been only twenty-one in the thousand. Here we see the King of Terrors almost as visibly driven away by the hand of man as in some of those quaint old wood-cuts of Albert Durer." —*British Med. Journal*, Nov. 26, 1859.

S. A. Foss, M. D.,
Chairman Committee on Registration.

North Fork Post-office, Mason Co., Ky., '73.

Dr. E. S. Gaillard:

Dear Sir,—Since I have stated to you my business, let me call your attention to a substitute for opium. Go to Dr. Bayless or to Dr. Miller; go to any man in the Profession to whom I am personally or professionally known, and they will tell you who I am. I will not insult your intelligence by reciting the effects of opium on the brain. I have a remedy strongly antispasmodic, yet anti-narcotic, and when used acts upon the ganglionic plexuses without reflected action upon the brain. I make no concealment in regard to it.

℞.—Diascorein, Scuttellaria, aa., q. s.

Dose: Four to six grains.

It has been used here successfully. It is worthy of examination on your part.

I would be pleased to hear from you.

Yours, respectfully,
S. L. Marshall, M. D.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Greene County (Ga.) Medical Society.

The following is a condensed report of the Greene County (Ga.) Medical Society:

The first meeting was held on Saturday, 5th day of April,

according to previous notice. On that occasion several of the leading members of the Profession met and talked together, but entered into no regular organization of any kind. They, however, passed a resolution offered by Dr. T. W. Landrum, to the effect that another meeting be appointed to take place on the 12th inst., and that all physicians of any school who have been regularly graduated, or have just and proper *legal* authority for practicing medicine, be cordially invited to meet with them.

On the 12th, as appointed, the second meeting took place. Dr. C. M. Park was called to the chair, and Dr. J. M. Johnson requested to act as Secretary.

The objects of the meeting being explained by Dr. Walker, on motion, the body went into the regular organization of a Medical Society, with the following results: Dr. S. E Walker was elected President; Dr. William L. M. Harris, First Vice-President; Dr. A. H. Randall, Second Vice-President, and Dr. J. M. Johnson, Secretary and Treasurer.

The following resolutions were unanimously adopted:

Resolved, That the "Fee Bill" established by a convention of physicians held at this place February 19, 1868, be adopted by this Society, and that a deduction of twenty per cent. be allowed on all cash payments, and that an addition of twenty per cent. be made on all bills not promptly paid at the end of the year.

Resolved, That we require in all doubtful cases the verbal or written obligation of employers to pay for services rendered employés.

Resolved, That the regular meetings of the Society be held in the city of Greensboro on the first Tuesday in each month, at 12 M., and that some medical subject be presented at each meeting for dicsussion at the next, upon which each member will be expected to express his views.

The subject for discussion at the next meeting—"Cerebro-Spinal Meningitis."

Physicians of adjoining counties are most cordially invited to meet with them. J. M. Johnson, M. D., Secretary.

Kimball Medical Society.

Kimball, Basque Co., Texas, 1873.

Dr. E. S. Gaillard:

A meeting of the physicians of Kimball and surrounding

counties having been called to meet at this place on Saturday, the 24th day of May, for the purpose of organizing a Medical Society, the call was responded to by Drs. W. E. Spalding, T. J. Anderson, J. R. Oldham, R. G. Williams, —— Ellis, M. M. Myers, and B. F. Lane.

The meeting was called to order, and an election for officers was had, which resulted in the election of Dr. W. E. Spalding, President; Dr. T. J. Anderson, Vice-President; and Dr. M. M. Myers, Secretary and Treasurer.

Dr. J. R. Oldham was appointed chairman of a committee to draft by-laws and regulations for the Society.

A resolution was passed to instruct the Secretary to forward a copy of these proceedings to the "Richmond and Louisville Medical Journal" for publication.

After which the meeting adjourned to meet again on Saturday, the 21st day of June last.

M. M. Myers, M. D., Sec.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---Hor.

Recent Researches on Chloral.—The Academy of Sciences in Paris recently made its annual distribution of prizes, one of which was given to M. Personne for his researches on chloral.

M. Personne proceeded as follows: He gave a dog (which was in good condition) 8 grammes of chloral. When the state of anæsthesia was nearly complete, he took from the jugular vein of the animal a quantity of blood in which to search for the presence of chloroform. He then passed a current of air through the blood (which was kept at a temperature of about 40° C.) and then through a red-hot tube, the further extremity of which was immersed in a solution of the nitrate of silver. By this means chloroform contained in the blood would be

withdrawn and decomposed by the heat, and the products of this decomposition passing into the nitrate of silver would cause a precipitate of chloride of silver, due to the chlorine from the decomposed chloroform. This experiment, frequently repeated under varying conditions, always gave a positive result, and proved the presence of chloroform in the blood of dogs submitted to the action of chloral. Operating similarly with blood to which hydrate of chloral had been directly added, M. Personne proved that chloroform was produced in it also. If the odor of the chloroform in these cases did not become perceptible, the reason was that, being feeble, it was masked by the odor proper to blood itself.

In reference to this explanation, M. Personne has shown that if two liquids be taken similar in composition and in alkaline reaction—for instance, blood and solution of white of egg—and if there be added to each the same quantity of hydrate of chloral, the odor of chloroform, which is perceptible in the white of the egg, is not sensible in the blood, which yet contains a quantity appreciable by chemical processes.

It may be added that, in the course of his researches on chloral, M. Personne has enriched the chemical history of this compound with many new facts. He has discovered and studied a combination of chloral with alcohol, which is very similar to the hydrate, and may be confounded with it. He has also thrown new light on the relations between chloral and aldehyde, showing that, by substitution of hydrogen for the chlorine of chloral, it is possible to produce aldehyde. This result confirms, by inverse method, M. Wurtz's observation, that chloral may be obtained by substituting chlorine for three equivalents of hydrogen of the aldehyde.

To sum up, M. Personne has experimentally demonstrated that the idea which guided M. Liebreich was well founded; namely, that hydrate of chloral is really decomposed in the system and produces chloroform. The alkalinity of the blood, which is the determining cause of production of chloroform, also limits this production; hence the proportion of chloroform

met with is small. M. Personne's labors supply a solid basis for the application of this valuable agent in therapeutical treatment.—*Ex.*

To Remove Adhesive Plaster.—Every surgeon, doubtless, is familiar with the appearance of a part which has been enveloped in adhesive plaster, after the straps have been removed. The appearance is not one in very good keeping with a cleanly and neat surgical dressing. The portion of the plaster which is left adhering to the skin may be quickly and completely removed by the use of oil of turpentine and sweet oil. Use a little more than half turpentine. This compound, carefully rubbed over the parts with a bit of cloth or sponge, and then washed off with warm soap-suds, will leave the surface as clean as nature ever intended.—*Boston Jour. Chemistry.*

Note on the Triplex Pill of Dr. John W. Francis. By Edward R. Squibb, M. D.—Many years ago the well-known Dr. John W. Francis used a pill which he called triplex, and which became so popular as to be widely known beyond Dr. Francis' own locality. It originally consisted of equal parts of socotrine aloes, scammony, and mercurial pill mass, in a pill of three grains.

During the latter part of the professional career of Dr. Francis, he modified the formula for the then well-known triplex pill, and the modification was generally accepted as an improvement. The pill was then long prescribed by physicians, and used by hereditary transmission to families simply as triplex pill, and its composition neglected and forgotten except by the pharmacists who made them; and finally the pharmacist who principally served Dr. Francis before his death alone had the formula.

Some ten years ago, when the writer was serving as a committeeman of the New York Academy of Medicine, in preparing a report on the United States Pharmacopœia, previous to its revision, he applied to the son of Dr. J. W. Francis, the present Dr. Samuel W. Francis, for the improved formula of

his father, with a view to its republication. Dr. S. W. Francis examined his father's papers, but without finding the formula, but informed the writer that Messrs. Delluc & Co., pharmacists, had made the pill for his father, and continued still to make and sell them. The writer then applied to Mr. Delluc for the formula, but it was refused, and the subject was dropped.

Recently, however, Dr. Samuel W. Francis, in a note to the writer, sent a formula for the pill, saying that he obtained it from Messrs. Delluc & Co., and communicated it for publication.

Although the pill, under the close policy of Messrs. Delluc & Co., has declined in its general use of late years, it is still highly valued by many physicians as one of those happy combinations which grow out of the long experience and fertile resources of eminent men in the Profession of past years. When it is remembered how successful these men were in their practice, and hence what a hold upon the confidence of the community they have handed down to the Profession of the present day, it does not seem wise to lose or disregard the agencies by which they reached their beneficent results.

The formula for Dr. Francis' triplex pill is as follows: Take of—

Powdered Socotrine Aloes, Powdered Scammony, Mercurial Pill Mass,	of each 1 troy ounce;
Croton Oil, ...	20 minims;
Oil of Caraway, ...	1½ fluid drachms;
Tinct. of Aloes and Myrrh, or Elixir Proprietan of Paracelsus, .	2 fluid drachms;

Mix the ingredients well together by very thorough trituration, make a pill mass, and divide the mass into four hundred pills.

The usual aperient or laxative dose is one pill at bedtime until the natural condition is restored.—*Proceedings American Pharm. Association.*

Agassiz on Darwinism—Professor Agassiz, in the last lecture of his recent course at the Museum of Comparative Zoölogy, in

Cambridge, gave his views on the Darwinian theory with more plainness than ever before. He contended that the fact of a resemblance, in certain stages of growth, between different species, is no proof that one has been developed out of another. On this point he speaks as follows:

"We see that fishes are lowest, that reptiles are higher, that birds have a superior organization to both, and that mammals, with man at their head, are highest. The phases of development which a quadruped undergoes, in his embryonic growth, recall this gradation. He has a fish-like, a reptile-like stage before he shows unmistakable mammal-like features. We do not on this account suppose a quadruped grows out of a fish in our time, for this simple reason, that we live among quadrupeds and fishes, and we know that no such thing takes place. But resemblances of the same kind, separated by geological ages, allow play for the imagination, and for inference unchecked by observation."

Professor Agassiz maintains that there is no unvarying, inevitable evolution in the geological succession of organic life. "It has," he says, "just that freedom of manifestation, that independence, which characterizes the work of mind as compared with the work of law." Instead of everything having gone forward mechanically, as the evolutionists claim, the animals that should be ancestors, if simplicity of structure is to characterize the first-born, are known to be of later origin; the more complicated forms have frequently appeared first, and the simpler ones later, and this in hundreds of instances. But here again we can not do better than to allow the Professor to state his conclusions for himself:

"I believe that all these correspondences between the different aspects of animal life are the manifestations of mind acting consciously with intention toward one object from beginning to end. This view is in accordance with the working of our minds; it is an instinctive recognition of mental power with which our own is akin, manifesting itself in nature. For this reason more than any other, perhaps, do I hold that this world of ours is

not the result of the action of unconscious organic forces, but the work of an intelligent, conscious power."

This able and earnest protest against Darwinism, like the remarkable article on the subject that has recently appeared in the "Quarterly Review," will command the attention of the whole scientific world. It is hardly possible that these vigorous attacks will be endured in silence by Darwin and his followers. We anticipate some lively fighting between the opposing parties.—*Boston Jour. Chem.*

Separation of the Mercury in Thermometer Tubes.—When thermometers are overturned or shaken by accident, it frequently happens that a portion of the mercury in the instrument is separated from the main column and hangs in the upper part of the tube. It is generally easy to unite this portion of the mercury with that in the bulb by holding the thermometer vertically two or three inches above a piece of card and letting it fall vertically upon the card; or, while firmly holding it in the right hand, strike with the arm smartly against the palm of the left hand; or, further, the thermometer may be fastened to a piece of string and swung around, as with a sling, but with caution, and not too rapidly. In many cases the detached particle of mercury is so small that its weight is not sufficient to overcome the adhesion to the side of the glass tube; the following plan of procedure is then recommended:

The instrument is inclined at an angle of twenty to forty degrees, so that the bulb stands higher than the tube, and a blow with a flat piece of wood is given in the direction of the thermometer stem. The mercury in the stem is thus jerked forward, and, uniting with the detached portion, fills the entire tube. If the thermometer be now slowly and cautiously brought into such a position that the mercury begins to flow back toward the bulb, the united column may generally be returned to its proper place. In the place where the separation has occurred a small air-bubble is generally found, but by following the above directions this difficulty may be almost always overcome.—*Journal of Applied Chemistry.*

Improved Formula for Camphor Water. By Wm. B. Addington, Norfolk, Va.—℞. Camphoræ, ℥iv.; magnes. carb., ℥ij.; aquæ distillat., Oiv.; alcohol, q. s. Take just enough alcohol to dissolve the camphor and bring it to a liquid state; while liquid add the magnesia and triturate (during this time the alcohol will evaporate). Then mix the water, as usual, and filter. By making a perfect solution of the camphor, the particles are thoroughly divided, whereas, by the U. S. P. process, only enough alcohol is added to break up the adhesion of its particles and reduce it to powder, and all must have noticed the numerous small grains of camphor left on the filter by the present process. Camphor water is made by the process I suggest in one-half the time; magnesia is saved by it, and all the camphor directed is taken up in the solution. By the present process it is not. There is no deposit formed on the bottom or sides of the jar by standing. I have tried this formula for the last eight months, and am very much pleased with it.—*Canadian Pharm. Jour.*

Pomade a la Rose.—Purified beef marrow, 1 pound; spermaceti, 2 oz.; oil of sweet almonds, 3 oz.; oil of rose, 30 drops; oil of geranium, 30 drops. Melt the marrow, spermaceti, and oil of almonds together over a water-bath; when melted pour into a marble mortar, and triturate until well mixed and a white pomade is obtained; then add the essential oils and mix well. Color red with three ounces almond oil heated with half drachm alkanate, and strain.—*Ex.*

A Triumph of Art.—Boston stands preëminent in the production of exquisite and wonderful optical instruments. Mr. Tolles has just achieved the great result of producing a $\frac{1}{75}$ objective for microscopic uses, a glass of such difficult construction that we believe no optician has ever attempted it before. The power of this objective is such that a *single white blood corpuscle covers the entire field of vision.* Mr. Tolles has produced two of the finest $\frac{1}{50}$ objectives ever constructed, one of which is in this city, the other is in the hands of a Western

gentleman. The angular aperture of one is 120°; that of the other, and the last constructed, is 165°.

These objectives are of great excellence, and in the opinion of competent microscopists, far surpass in defining power and clearness of field those of European make.—*Boston Journal of Chemistry.*

Making Mistakes.—Professor Joy remarks: "If Liebig was hasty in expressing an opinion, he was equally ready to retract when convinced that it was erroneous. I once had a conversation with him on this point, and he spoke of the fear some scientific men had of being caught in a mistake. He considered errors inevitable and inseparable from the accomplishment of any scientific work; and it was on this occasion that he made the oft-quoted remark: 'Show me the man who makes no mistakes, and I will prove to you that he does nothing.' It is easy enough for a scientific man who publishes nothing, but only criticizes others, to escape the charge of committing errors, and for such persons Liebig entertained a wholesome contempt. What he desired, above all things, to know, was the truth; and when he thought he had discovered it, he was anxious to give the benefit of it to the world."—*Boston Jour. of Chemistry.*

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

ART. I.—BIOGRAPHICAL SKETCH OF DR. EPHRAIM McDOWELL, of Danville, Ky. By JOHN D. JACKSON, M. D., Danville, Ky.*

The subject of the engraving published in the July number of this Journal, Dr. Ephraim McDowell, was born in Rockbridge county, Va., on the 11th day of November, 1771. His ances-

* It is right for us to say here, that for most of the facts contained in this sketch, we are indebted to the Biography of Dr. Ephraim McDowell, read by

tors belonged to the clan of the Duke of Argyle in Scotland, but having embraced the covenant, were so persecuted during the reign of Charles I., that they took refuge in the counties of Ulster and Londondery, in the north of Ireland. In 1737 they removed to the Valley of Virginia, and settled upon an immense tract of land in Rockbridge county, granted by James II. to Benjamin Borden, who, in partnership with the McDowells, furnished the emigrants required to make the grant effective.

His father, Samuel McDowell (his mother's maiden name was Sarah McClung), was for many years engaged in political life as a member of the Legislature of Virginia, but in 1782 he was appointed by the Virginia Assembly a Land Commissioner for Kentucky, then a county or appanage of Virginia, and in the following year removed with his family to Danville, Ky., where he received the appointment of Judge of the District Court of Kentucky, which held its first sitting, and all those of its early years, in the town of Danville.

Young Ephraim McDowell received his early education at the classical seminary of Messrs. Worley and James, who taught at Georgetown, and afterwards at Bardstown. He then went to Virginia, and entered the office of Dr. Humphreys, of Staunton, as a medical student, where he remained for two or three years. Of Dr. Humphreys we know but little, save the fact that he was a graduate of the University of Edinburgh, and that in his day he enjoyed a considerable local reputation, and an extensive practice in Staunton and its vicinity. That

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Dr. S. D. Gross in his Report on Kentucky Surgery before the Kentucky State Medical Society in 1852, and to be found in the printed Transactions of that year, and subsequently published in the volume of American Medical Biography, edited by Dr. Gross, and published by Lindsay & Blakiston, of Philadelphia, in 1861. This admirable memoir by Dr. Gross has, we think, hardly attracted the attention it deserves. He has certainly gone over the field, as we have found out, with extraordinary labor and care, and his conclusions and comments upon the true character of the subject of his sketch, as far as we have been able to verify them through conversation with the few surviving contemporaries of Dr. McDowell, are most just and discriminating.

he was a good instructor, also, is highly probable, at least we know the fact that another of his pupils, Dr. Samuel Brown, one of the founders of the first corps of lecturers of the Medical Department of Transylvania University, at Lexington, arose to high distinction.

In 1793–4 McDowell attended lectures at the University of Edinburgh contemporaneously with his countrymen, Dr. Samuel Brown, above alluded to, and Drs. Hosack and Davidge, of New York, and Brockenborough, of Virginia, all of whom subsequently gained eminence in the Profession. While in attendance on the course of the University, he also took the private course of John Bell, who at that time did not belong to the Faculty, and it seems that the brilliant prelections of this most able and eloquent of the Scotch surgeons of his day impressed him very profoundly; that portion of his course, in which he lectured upon the diseases of the ovaries, dwelling upon the hopeless death to which their victims were inevitably fated, and merely suggesting the possibility of success following so shockingly severe an operation as any attempt at their extraction would prove, was never forgotten by his auditor, for undoubtedly it was the principle and suggestions at this time enunciated by the master which, sixteen years after, determined the pupil to attempt his first ovariotomy. He did not remain long in Edinburgh after finishing his course, but returned to Danville at the expiration of two years, preceding his return home by an extended tour afoot through Scotland, in company with two of his American compatriots, Drs Brown and Speed. As far as we know, the degree of M. D. was not actually conferred upon him until 1823, when, entirely unsolicited on his part, the University of Maryland honored itself by conferring upon him the honorary degree of M. D. The Medical Society of Philadelphia, at the time the oldest and most distinguished of the kind in this country, had sent him its diploma in 1807.

Upon his return to Danville in 1795, Dr. McDowell at once entered upon the practice of his profession, and commencing, as he did, with the eclât of an attendance upon the then most

famous medical school of the world (for Edinburgh at that time held the position since occupied by Paris, and now held by Vienna, as the centre of medical science), he soon assumed the first professional position in his locality, and speedily advancing the extent of his reputation within a very few years, became known throughout all the Western and Southern States as the first surgeon west of Philadelphia. For a quarter of a century indeed, or until Dr. Benjamin W. Dudley, of Lexington, came upon the field, and as a lecturer upon surgery, yearly came before large classes of young men assembled at the Medical Department of Transylvania University from all portions of the Ohio and Mississippi Valleys, had an opportunity for extending a reputation such as no man in the West ever had before him, we may say that Dr. McDowell stood without one to dispute his position, as *facile princeps* in surgery west of the Alleghanies.

During his time his practice extended in every direction, persons coming to him for treatment from all the neighboring States, and he frequently taking horseback journeys for hundreds of miles, generally the only mode of travel for long distances at that day, when neither turnpikes nor railways existed, to operate upon persons whose difficulties were of such a nature as to prevent their visiting him at Danville. As far as known, he was in the habit of performing every surgical operation then taught in the science. In lithotomy he was extremely successful, up to 1828 he was known to have operated twenty-two times without a single death. For strangulated hernia he also operated in a large number of cases, and we have good reasons for believing that he successfully extirpated the parotid gland long before McClellan or any other American surgeon had attempted it. Indeed, there was scarcely anything from a simple amputation to tracheotomy which was to be done but that if Dr. McDowell was accessible, he was sent for to perform it.

It was in the autumn of 1809, when he had been practicing his profession for fourteen years, that he was sent for to see

Mrs. Crawford, residing in Greene county, Ky., some sixty miles from Danville, who was thought by her doctors to have gone long beyond her time in pregnancy, or to be the subject of extra-uterine fœtation. McDowell found her trouble really to be an ovarian tumor, rapidly hastening to a fatal termination. To quote the graphic description of Dr. Gross: "After a most thorough and critical examination, Dr. McDowell informed his patient, a woman of unusual courage and strength of mind, that the only chance for relief was the excision of the diseased mass. He explained to her, with great clearness and fidelity, the nature and hazard of the operation; he told her that he had never performed it, but that he was ready, if she were willing, to undertake it, and risk his reputation upon the issue, adding that it was an experiment, but an experiment well worthy of trial. Mrs. Crawford listened to the surgeon with great patience and coolness, and, at the close of the interview, promptly assured him that she was not only willing, but ready to submit to his decision; asserting that any mode of death, suicide excepted, was preferable to the ceaseless agony which she was enduring, and that she would hazard anything that held out even the most remote prospect of relief. The result has been long before the Profession. Mrs. Crawford submitted to the operation, and thus became the first subject of ovariotomy of whom we have any knowledge."

Mrs. Crawford was forty-seven at the time of the operation, and died on the 30th of March, in 1841, aged seventy-eight.

Although the success in Mrs. Crawford's case had been everything which could be desired, it was not until seven years afterward, and when he had twice repeated the operation, that he published any account of it. In 1816 he prepared a brief account of his first three cases, a copy of which he forwarded to his old preceptor, John Bell, who was then traveling on the Continent for his health, and had left his patients and professional correspondence in the charge of Mr. John Lizars. Though Mr. Bell lived until 1820, he never returned to Edinburgh, and for some reason the communication of his old pupil

failed to reach him. Another copy of the report, however, was sent to Philadelphia for publication, and in the "Eclectic Repertory and Analytical Review" for October, 1816, there appeared the following:

"THREE CASES OF EXTIRPATION OF DISEASED OVARIES. By EPHRAIM McDOWELL, M. D., of Danville, Ky.

"CASE I.—In December, 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pain similar to labor pains, for which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy, that two physicians who were consulted in her case requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination, PER VAGINAM, I found nothing in the uterus which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted, nor heard of an attempt or success attending any operation such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment, which I promised to perform, if she would come to Danville (the town where I live), a distance of sixty miles from her place of residence. This appeared almost impracticable by any though the most favorable conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M. D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches long, from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibres of the above-named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during the journey. The tumor then appeared full in view, but was so large that we could not take it away entire. We put a strong ligature around the Fallopian tube near to the uterus; we then cut open the tumor, which was the ovarium, and the fimbriated part of the Fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous-looking substance; after which we cut through the Fallopian and extracted the sac, which weighed seven pounds and a half. As soon as the external opening was made, the intestines rushed out upon the table, and so completely was the abdomen filled by the tumor, that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape, after which we closed the external opening with the interrupted suture, leaving out at the lower end of the incision the

ligature which surrounded the Fallopian tube. Between every two stitches we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressing, put her to bed, and prescribed a strict observance of the antiphlogistic regimé. In five days I visited her, and much to my astonishment found her engaged in making up her bed. I gave her particular caution for the future, and in twenty-five days she returned home, as she came, in good health, which she continues to enjoy."

"Case II.—Since the above case, I was called to a negro woman who had a hard and very painful tumor in the abdomen. I gave her mercury for three or four months, with some abatement of pain, but she was still unable to perform her usual duties. As the tumor was fixed and immovable, I did not advise an operation, though, from the earnest solicitation of her master, and her own distressful condition, I agreed to the experiment. I had her placed upon a table, laid her side open, as in the above case, put my hand in, found the ovarium very much enlarged, painful to the touch, and firmly adhering to the vesica-urinaria and fundus uteri. To extract, I thought would be instantly fatal; but, by way of experiment, I plunged the scalpel into the diseased part. Such gelatinous substance as in the above case, with a profusion of blood, rushed to the external opening, and I conveyed it off by placing my hand under the tumor, and suffering the discharge to take place over it. Notwithstanding my great care, a quart or more of blood escaped into the abdomen. After the hæmorrhage had ceased, I took out as cleanly as possible the blood, in which the bowels were completely enveloped. Though I considered the case as nearly hopeless, I advised the same dressings and the same regimen as in the above case. She has entirely recovered from all pain, and pursues her ordinary occupation."

"Case III.—In May, 1816, a negro woman was brought to me from a distance. I found the ovarium much enlarged, and as it could be easily moved from side to side, I advised the extraction of it. As it adhered to the left side, I changed my plan of opening to the linea alba. I began the incision, in company with my partner and colleague, Dr. Wm. Coffer, an inch below the umbilicus, and extended it to within an inch of the os pubis. I then put a ligature around the Fallopian tube, and endeavored to turn out the tumor, but could not. I then cut to the right of the umbilicus and above it two inches, turned out a scirrhus ovarium (weighing six pounds), and cut it off close to the ligature put around the Fallopian tube. I then closed the external opening as in former cases, and she complaining of cold and chilliness, I put her to bed prior to dressing her; then gave her a wineglassful of cherry-bounce and thirty drops of laudanum, which soon restoring her warmth, she was dressed as usual. She was well in two weeks, though the ligatures could not be released for five weeks, at the end of which time the cord was taken away, and she now, without complaint, officiates in the laborious occupation of cook to a large family."

The brevity and the rather loose manner in which his first cases were recorded exposed Dr. McDowell to criticism, and Dr. Henderson and Dr. Michener, of Philadelphia, each, in articles in the "Repertory," reviewed him rather sarcastically and doubtingly, while Dr. James Johnson, the caustic editor of the "London Medico-Chirurgical Review," did not hesitate to take advantage of the opportunity, and declare outright his total disbelief of Dr. McDowell's statement. A few years thereafter, when the accuracy of the reports had been fully confirmed, he however acknowledged his previous error, though in a very flippant and ungracious manner, saying: "A back settlement of America (Kentucky) has beaten the mother country, nay Europe itself, with all the boasted surgeons thereof, in the fearful and formidable operation of gastrotomy with extraction of diseased ovaries. * * * There were circumstances in the narratives of the first three cases that raised misgivings in our minds, for which uncharitableness we ask pardon of God and of Dr. McDowell, of Danville."

In the "Repertory" for October, 1819, he reported two more cases, and in connection with them, incidentally alluded to his critics and their criticisms to this effect:

"I thought my statement sufficiently explicit to warrant any surgeon's performing the operation, when necessary, without hazarding the odium of making an experiment, and I think my description of the mode of operating, and of the anatomy of the parts concerned, clear enough to enable any good anatomist possessing the judgment requisite for a surgeon, to operate with safety. I hope no operator of any other description may ever attempt it. It is my most ardent wish that this operation may remain to the mechanical surgeon ever incomprehensible. Such have been the bane of the science, intruding themselves into the ranks of the Profession, with no other qualification but boldness in undertaking, ignorance of their responsibility, and indifference to the lives of their patients; proceeding according to the special dictate of some author as mechanical as themselves, they cut and tear with fearless indifference, incapable of exercising any judgment of their own in cases of emergency; and sometimes without possessing the slightest knowledge of the anatomy of the parts concerned.

"The preposterous and impious attempts of such pretenders can seldom fail to prove destructive to their patients, and disgraceful to the science. It is by

such the noble science has been degraded, in the minds of many, to the rank of an art."

In the summer of 1822 he made a long horseback journey of some hundreds of miles into Middle Tennessee and back, and performed ovariotomy with a successful result upon Mrs. Overton, who resided near the Hermitage, the residence of the late President Jackson. Mrs. O. was enormously obese, and he had to cut through four inches of fat upon the abdomen. The only assistants he had in the operation, as we have been informed, were General Jackson and a Mrs. Priestley. General Jackson seems to have been greatly pleased with the Doctor, and had him to go to his house and remove a large tumor growing from the neck and shoulder of one of his negro men. Dr. McDowell's charge for his operation upon Mrs. Overton was five hundred dollars, but the husband, with a commendable generosity, gave a check upon one of the Nashville banks for fifteen hundred dollars, which, upon the Doctor's presenting for payment, and discovering the presumed error for the first time, he sent a messenger back to Mr. Overton to have it corrected, but that gentleman replied that, far from being a mistake, he felt that he had not even then made a full compensation for the great services which Dr. McDowell had rendered.

How many times during his career he had occasion to perform ovariotomy is not now certainly known. He seems to have been fonder of the scalpel than the pen; indeed, to have been of that class of mankind, which we have all seen specimens of, was among the ablest and most cultivated, who have a natural antipathy to writing. He is said to have kept no notes of his cases, and with the exception of the two communications above quoted, and in 1826, when many tried to wrest his honors from him, a card to the Profession, and addressed especially to the "Medical Faculty and Class at Lexington," which he was induced to publish, defending his veracity and claims to having been the first to perform and establish the feasibility of the removal of diseased ovaries, is about all he wrote for publication regarding his operations. However, his nephew, Dr.

Wm. A. McDowell, who was for five years his pupil, and two years his partner, tells us that up to 1820 his uncle had seven cases, six of which he witnessed, and that six of the seven were successful. After Dr. McDowell's removal from Kentucky to Fincastle, Va., Dr. Alban G. Smith succeeded to his position as partner of Dr. Ephraim McDowell, and while with him Dr. Smith himself twice performed ovariotomy. The younger McDowell stated that he had reliable testimony of his uncle having during his life operated at least thirteen times, exclusive of the two cases Dr. Smith operated upon, when they were in partnership, and that of the cases operated upon by his uncle subsequent to his retiring from partnership, he had personal knowledge of the recovery of two. This would make a total of thirteen cases, with eight recoveries.

Dr. McDowell seems to have been very careless of either his present or posthumous fame, and to have originally drawn up the report of his cases at the repeated solicitation of his nephew, Dr. James McDowell, who, up to the time of his premature death, had been the partner of his uncle, as his brother William, to whom we have alluded, afterwards was. The idea that his success would be pleasing to his former preceptor, John Bell, to whom he felt he owed his determination to perform the operation, according to his nephew, seemed more than all else to have induced him to put his cases before the professional world.

Long after all dispute of the authenticity of Dr. McDowell's cases had ceased, the medical literature of the past was ransacked to find some one who had preceded him in the operation. Indeed, until the critical investigations of Dr. Gross, it was generally believed that L'Aumonier, Dzondi, and Galenzowski had all preceded him, by having each done at least a single ovariotomy. Going to the original records of these gentlemen, however, it was found that the first had only punctured an abscess of the ovary, that Dzondi's was simply a case of gastrotomy upon a boy for a pelvic tumor, and Galenzowski's case, while really an imperfect ovariotomy, was not done until 1827,

eighteen years after the first case of McDowell. When Dr. Ephraim McDowell performed his first operation, as he said in publication of it, he had never "heard of an attempt or success attending any operation such as this required." At present we are not aware that even the most persevering antiquarian research has been able to find an undoubted ovariotomy before the time of McDowell; for although we observe that Mr. Spencer Wells, in his recently published history of the origin and progress of ovariotomy, says, on the authority of Dr. Washington L. Atlee, that Dr. Robert Houstoun operated near Glasgow in 1701, and that "from this case it will appear that ovariotomy originated with British surgery, on British ground"; yet a reference to the original record shows very plainly that Dr. Houstoun was never really an ovariotomist, in the sense of his having removed an ovary, his operation, like L'Aumonier's, consisting in laying open the diseased ovary and evacuating a large quantity of gelatinous fluid, when, as he says, "I squeezed out all I could and stitched up the wound in three places almost equi-distant." We observe that Dr. Atlee, in his volume on "Ovarian Tumors," dedicates the book to his brother, Dr. John L. Atlee, and to the memory of "Dr. Ephraim McDowell, the Father of Ovariotomy." Even had the operation been done many times before, forgotten or unnoticed, as the cases lay among the dead records of the past, it should not, and would not derogate at all from the glory of Dr. McDowell, who had never heard even of any attempt to perform it, and who, after his performance of it, first succeeded in establishing it as a legitimate operation in the medical world. When we think of one living on the border of Western civilization, in a little town of between four and five hundred inhabitants, far removed from the opportunity of consultation with any one whose opinion might be of any value to him in such a case, and near a thousand miles away from the nearest hospital, or college dissecting-room, at which he might have had opportunity of studying and practicing upon some body who had perished of the disease before performing a new and untried operation of such fearful

magnitude upon the living; and learn of his having pondered and contemplated all the difficulties, and with a full sense of the dangers liable to environ him in the attempt, and then without ether or chloroform, and by the aid of probably only one fully skilled assistant and two or three medical students, see him attempt and successfully perform the first ovariotomy, our admiration for Dr. Ephraim McDowell's courage and skill rises to its full height, and we feel that he is justly entitled to have applied to him Horace's words, describing the stoutness of heart of the first of mariners who had the boldness to go down into the sea in ships:

> Illi robur et æs triplex,
> Circa pectus erat, qui fragilem truci
> Commisit pelago ratem
> Primus.

Dr. McDowell, in person, was nearly six feet in height, of commanding carriage, of a rather florid complexion, with black eyes and dark hair, and deemed in youth a quite handsome man. He was always remarkable for his strength and agility, and while at Edinburgh was pronounced the swiftest foot-racer of the whole University. He was one of the kindest-hearted and most amiable of men, overflowing with cheerfulness and good humor, and readily approachable by the world. He seemed to be totally devoid of all reserve and austerity, a tinge of which is generally characteristic of the scholar and professional man, and never appeared to assume that there was any difference between the plane of his vocation and that of the humblest unlettered artisan. This seemed instinctively to strike all who came in contact with him, and an easiness amounting almost to familiarity existed between him and his fellow-citizens. So true was this, that with the masses, probably because of this very fact, he was not generally appreciated for his true worth. A man in manner arrogating to himself nothing above the populace, as may readily be believed, would not, save by those gifted with something above common penetration, be acknowledged to be superior to their sphere. Never,

however, was any of this air of familiarity in the slightest degree tinctured with professional demagoguery. His bitterest enemies did not once accuse him of this. By a gentleman of keen perception, yet living, whose father's family physician he was, I am told that never was there a man whose life was freer from the acts of the charlatan, or more entirely devoid of all the petty "tricks of trade," which too frequently disgrace the Medical Profession. While in the sick room, though he was fond of gossiping about local matters and the events of the day, he habitually refrained from discussing things medical, or any of the affairs of his rivals, with some of whom he was publicly known to be on anything but good terms. While in daily competition with certain members of the Profession, whose chief strength was in the application of such arts, they and their artifices were held in supreme contempt by him. From what we can learn, one of the constant endeavors of these gentlemen, who knew that they never could approach McDowell by fair competition, was to try and train the community to believe that there was a sort of essential incompatibility between surgery and medicine, and that because he was infinitely their superior in surgical knowledge and manual dexterity, that just by so much was he their inferior in all the intricacies of the practice of medicine, whose arcana were not so appreciably evident to the public as the more demonstrable work of the surgeon. Or, as they were in the habit of putting it, that while he was a bold surgeon, he was but a poor "fever doctor." So far from this being the case, however, he kept himself fully abreast with the progress of medicine by reading all that was new on the subject, and was probably really as far in advance of his competitors in physic as in surgery. Certainly we now know that in the treatment of fever, he was in some respects ahead of his time, though at variance with the generally accepted doctrines of his day and the prevailing custom of the physicians of his section. At that period it was customary to give more or less mercury in the progress of every fever, and after a dose of calomel or blue-mass, to allow a patient cold water,

was thought to be recklessly dangerous. The standard treatment of the country was, to let the patient have no drink but what was warmed, and this usually consisted of water in which a piece of burnt bread-crust or warm toast had been soaked. On the contrary, Dr. McDowell used to tell his patients that there was no danger in cold water while the skin was hot, and while such was the case, he allowed them to use it *ad libitum*. I have heard an old gentleman, who lived in an adjoining county, tell how, when he was a boy, and one of his brothers lay very ill of a fever, Dr. McDowell was sent for, and of the anxious fears of the family, while obeying the directions of the Doctor, who had the patient laid naked upon the floor, and bucketful after bucketful of cold water poured over him, to his great relief and ultimate recovery. In medicine he looked upon Sydenham and Cullen as the master minds, and set their works above all others on practice.

To the system of over-drugging, then so common, he was an enemy, believing that as then given by the mass of the Profession, without discrimination, drugs were producing, in the aggregate, more harm than good. Though practicing medicine with more than ordinary ability, yet his inclinations were always especially toward surgery, and it was his custom, when practicable, to throw as far as possible the medical practice into the hands of his partner.

He was a most accomplished anatomist, and used every winter, in conjunction with his office-students, of whom he generally had at least two or three, to dissect in the upper story of an old abandoned building which had formerly been the county jail; and his office, in the course of time, had quite a number of anatomical preparations, the work of his own hand. When having determined upon the performance of any capital operation, his custom was to drill, beforehand, his students who were to assist him thoroughly, until each was perfect in the part he was to perform; not only this, but he compelled each to give a succinct history of the nature of the difficulty requiring the operation, the anatomy of the parts involved, and the tissues to

be divided, and then rehearse the different steps of the operation itself. As an operator, it was the invariable opinion of all competent judges that, for coolness and dexterity, they had never seen his equal. From the moment he took the knife in his hand, preparatory to operating, he seemed to become enthused, and to the bystanders looked like quite a different man.

He possessed an excellent medical library for his day and locality, and was in the habit of purchasing most of the principal new works on their issue. While having a fair knowledge of the classics, yet most of his professional leisure he gave to history and belle-lettres. Burns was an especial favorite with him, and from his familiarity with the Scottish dialect, acquired while in Edinburgh, his readings and quotations were given with the idiom as perfect as if he had been a native of Auld Reekie.

As a citizen, he was charitable and public spirited, favoring and contributing, by his means, to most of the enterprises which promised good to the community in which he resided. He was an especial friend to Centre Colloge, coöperating largely by his influence and money toward its foundation, and was indeed one of its original corporators and curators. This, too, although its government was by the Presbyterian Church, while he himself was, in religion, an Episcopalian. The site of the present Episcopal edifice, Trinity Church, was a contribution from Dr. McDowell.

In 1802 he married Sarah, a daughter of Governor Isaac Shelby, with whom he lived happily and raised a family of two sons and four daughters, only three of whom survived him. Mrs McDowell was his survivor by ten years.

While in the full vigor of life, and in the midst of his professional work, he contracted an "inflammatory fever," and, after an illness of a fortnight, died in Danville on the 20th day of June, 1830, and was buried at Travelers' Rest, one of the estates of the Shelby family, some six miles north of the town.

When we consider the results to mankind of the labors of Dr. McDowell, we do not hesitate to rank him with the great

benefactors of the race. Before the 19th century, of the thousands of women afflicted with ovarian dropsy, to not one could the most astute or boldest of the healing profession promise anything hopeful. The promise of the doctor when called to such a case, was that of the priest, and not much more; for he could only say: two years of life, filled with gradually increasing misery, is the full compass of the days allotted to a woman who may find that she has an ovarian tumor, and unless God works a miracle in your case, such is your inevitable fate. But now, since the establishment of ovariotomy by McDowell, the matter stands quite differently, for the physician of our era, to-day, can say; it is true that without an operation you are inevitably doomed to death after some two years of miserable suffering; but by ovariotomy you have seventy chances or more out of a hundred (much better than one undergoing an amputation of the thigh), not only of recovery, but a full restoration to health.

Dr. Peaslee has made a calculation, based on this known law of the length of life of a woman who has an ovarian tumor uninterfered with, and the average age of all the recorded cases of ovariotomy up to 1870, and the probabilities of longevity of healthy women of that age, according to the most approved tables of life assurance, and has shown that, "in the United States and Great Britain alone, ovariotomy has, within the last thirty years, directly contributed more than thirty thousand years of active life to woman; all of which would have been lost had ovariotomy never been performed"; to say nothing of saving her more than a thousand years of untold suffering. With these facts before us, most devoutly indeed should all womankind bless the name of McDowell.

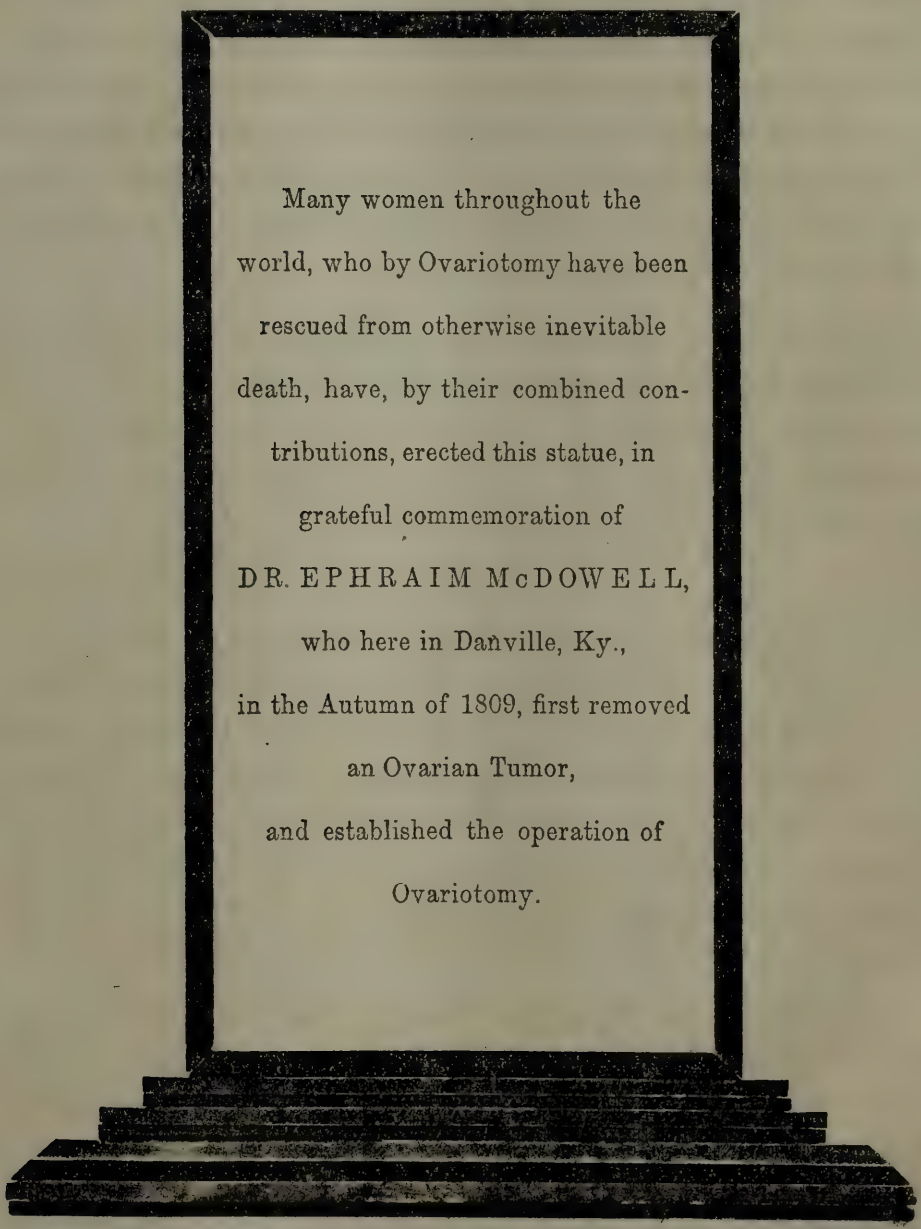
To one living in Athens in the days of the glory of ancient Greece, and conferring such a boon on the human race as ovariotomy, rank among the demigods with a temple and an altar would have been accorded him by acclamation of the people. Had he lived in the palmy days of the Roman Republic, the

highest civic honors, a medal and a statue, if not a shrine in the temple, would have been his by a decree of the Senate; and had Ephraim McDowell been born, and flourished in any one of the principalities of Europe, instead of the United States, long since would the Government, proud of such a son, have conferred titles of distinction upon him and his children while living, and erected a fitting monument to his memory when dead. But it seems that to us of the boasted Great Republic of the Western World, the proverbial charge regarding the ingratitude of Republics, is literally applicable in the case of the subject of our sketch. Such were the thoughts which crowded upon us recently, when we made a pilgrimage to the burial-ground of the Shelby family at Travelers' Rest, and after climbing the stone-wall enclosure, finally succeeded in struggling our way through brambles, briers, tall weeds and rank grass, to the neglected, lichen-covered sandstone slab, with simply the name of Ephraim McDowell upon it, which lies superposed above the remains of one to whom the whole world should feel deeply grateful, and of whom Kentucky and the American Republic may always be justly proud.

While Kentucky, and nearly every State of the Republic, has at different times voted monuments, statues or paintings, to one and another political favorite or military idol of the day, the worthiness of the commemoration of none of whom is to be compared to that of McDowell, and while if our State should erect the tallest shaft in all the land to mark his resting-place, she would but justly honor the worthiest of honor of all her children; yet does his fame not rest with us alone, nor is the beneficence of ovariotomy confined alone to our part of the globe.

Like Jenner, McDowell has been a benefactor for the generations of all time, and all countries, and as a few years ago the world at large contributed to the statue of Jenner, now erected in Hyde Park, London, so do we think it most fitting that all nations should be allowed to contribute to a suitable statue to McDowell, to be erected in Danville, the scene of the first ova-

riotomy. But since Dr. McDowell has been woman's special benefactor, we think it would be especially appropriate that the gratitude of the women of all nations should be allowed to display itself in the erection of a fitting memorial to their friend. Indeed, that a bronze statue of life-size should be erected solely from the voluntary contributions throughout the world of those women who may owe their lives to the operation of ovariotomy.


Many women throughout the
world, who by Ovariotomy have been
rescued from otherwise inevitable
death, have, by their combined con-
tributions, erected this statue, in
grateful commemoration of
DR. EPHRAIM McDOWELL,
who here in Danville, Ky.,
in the Autumn of 1809, first removed
an Ovarian Tumor,
and established the operation of
Ovariotomy.

Quinine by the Rectum.—Sulphate of quinine is one of those agents which produce their proper effect through the rectum, particularly in children, in nearly the same quantity as when taken into the stomach. The "Detroit Review" remarks on this subject: "In our experience, quinine will do its work just as well when mixed with cocoa butter and pushed in the rectum, as when taken by the mouth. This can be done with less trouble and discomfort than attends the swallowing of a sugar-coated pill. The doctor, patient and attendants who have once tried this method of giving quinine to children and fastidious people, will be sure to remember and practice it in similar cases. There is no way equal to this for administering narcotics when the stomach is weak or the patient unwilling to take medicine per mouth."—*Exchange.*

Preparation of Koumiss.—Dr. Townsend, of Cork, gives the following formula for the preparation of this drink, which is said to produce such favorable results in the treatment of phthisis. Take one quart of new milk, one noggin of thick milk, or fresh butter-milk, and three or four lumps of white sugar. Mix all together from jug to jug till the sugar is quite dissolved. Put it in a warm place to stand for ten hours, by which time it will be quite thick. Pour it again from jug to jug until it is quick smooth. Bottle it in soda-water bottles, and allow it to remain in a warm place for thirty-six hours (twenty-four in summer). Use the best velvet corks; tie them down; shake the bottle well for five or six minutes before it is opened. It will have whey at the bottom when it is fit for use. It should be made every day and taken in quantities. Its fermentation is the test of its excellence.—*Druggists' Circular.*

For Chafing in Infants.—Take powdered chalk two parts, white oxide of zinc one part. Make a fine, well-mixed powder. Dust the abraded places with the powder, after proper cleansing.—*Ex.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

EPIDEMIC OR MALIGNANT CHOLERA. By ALFRED STILLÉ, M. D., Professor of the Theory and Practice of Medicine in the University of Pennsylvania. J. B. Lippincott & Co., 1873.

This publication is issued at a time when it will be generally read. The professional mind, both in America and Europe, is engaged in studying all of interest in regard to cholera, and all books issued by clear, systematic, able, and efficient teachers, of experience and wisdom, must be welcomed. The first portion of Dr. Stillé's brochure is, of course, devoted to the history of his subject. Next in order, he analyzes the causes of cholera. As some few soft-brained and erratic scribblers for secular and professional periodicals are foolish enough to believe that cholera is due to malaria, and as these scribbling enthusiasts have induced some weak people to believe that such can be the cause of cholera, it is well to quote a few sentences from the excellent work under consideration:

CAUSES.—The first question which naturally presents itself in entering on the study of the disease relates to the *causes* which produce it. We should first answer the question, What causes do *not* occasion it? *Thus we may be sure that all possible combinations of natural causes, heat and cold, dryness and moisture and electricity, have existed in Europe and America from the beginning; yet they never developed cholera.* Neither did any of the more accidental causes, such as famine, or war, the filth, the crowding, or the misery of the poor, the luxury or the voluptuousness of the rich, or the sensuality of all classes. *The essential cause of cholera, like the cause of small-pox or of yellow fever, is specific.* * * * The quality of the *food* exerts a decided power in determining the attack. The coarse or scanty diet of the poor is no doubt to be added to the other causes already pointed out which operate unfavorably upon

this class of society. It has also been observed that that form of diet which occasions attacks of sporadic cholera is most apt to favor the development of the malignant form—to wit, exclusively vegetable food, particularly in its fresh or uncooked state, unripe fruits of all kinds, everything which is itself acid or tends to become so in the stomach, indigestible substances, such as pork, pickles, and salt provisions generally. * * * The propagation of cholera is, however, due essentially to but one cause: CONTAGION. It must be understood that contagion may be *direct,* as where disease is transmitted immediately from one person to another; or *indirect,* as where the clothing of the sick, their fæcal and other discharges become the media through which the contagious germs are conveyed. Moreover, this indirect contagion may take place through the air that is breathed, or through the water that is swallowed, and therefore through channels which may be quite unsuspected of carrying it. * * * Years ago a severe and fatal epidemic of cholura broke out in the Philadelphia Almshouse. The resident physicians were abundantly occupied in the ordinary care of the sick, and five or six young gentlemen were invited to take charge of the cholera patients. These patients were removed from the several parts of the house where they were originally attacked, to a building in the centre of the quadrangle, and were there attended by the physicians from the city who had volunteered their aid. Three or four of these physicians were attacked by cholera, and one of them died. At this time there was no cholera at all in the city, and the young gentlemen had, therefore, no predisposition to the disease. They were attacked while rendering their services to the sick; while the other, or resident, physicians of the house did not suffer. * * * In 1832 the cases of cholera in Edinburgh were in the proportion of *one* to every *twelve hundred* of the population of the city; while among those in attendance *on the sick* the proportion was *one in five.* In 1848–9, *one-fourth* of the nurses employed in the cholera hospital took the disease, while in the general hospital, 'only a few paces distant,' where no cholera

patients were received, not a single attendant was attacked. * * * It has been again and again observed that persons employed to wash the body and bed linen of cholera patients have suffered. * * * The disease is communicated by contagion, less evidently indeed, but none the less certainly, whenever the discharges from cholera patients contaminate water which is used by healthy persons for drinking. This has happened again and again. In London there was a certain well into which the contents of a sewer had been percolating for months. Of the water of this well hundreds of persons had been drinking without any obvious injury. At last a case of cholera occurred near by; the dejections were thrown into a privy which communicated with the sewer and indirectly with the well, whereupon more than five hundred persons who received water from that particular well were attacked within three days.

"Again, at Constantinople, in 1865, the clothes, mattresses, etc., of cholera patients were washed at a fountain, the basin of which was divided into two parts by a parapet wall; one part was used for washing clothes, and the other for drinking purposes. Unfortunately, the waste pipe being broken, the foul water from one side communicated with the clean water of the other, and in one day sixty people died in the small portion of the city which was supplied by the infected stream. * * * We may conclude that cholera is contagious, and that its contagious element is disseminated by whatever can carry a material poison; by bodies of men and by individuals; by ships and by clothing; by winds and by water; by dust and by food; and that the germs of the contagion are contained in the alvine evacuations and in nothing else."

In connection with the cause of cholera, these are a few of the most significant quotations from Dr. Stillé's work; others could be given, but this would be a waste of space and time. Dr. Stillé, in common with almost every scientific man, known and recognized as such, regards contagion as the only cause of cholera. It is a conclusion which is una-

voidable with all who read much upon this subject and are capable of forming logical opinions in regard to the premises (in the form of facts) submitted for examination. Of course, where one reads or accepts only distorted views of plain evidence and suppresses (in writing for the public) all the facts which militate against the views advocated by himself, he can make a plausible story for his readers; but what he presents is only a story (to use the mildest phraseology) after all; which, like all stories, has its charm destroyed when examined under the very feeblest ray of truth.

The portions of Dr. Stillé's publication treating of the diagnosis, pathology and treatment of cholera are very good resumés of standard views. There is nothing in regard to them not familiar to most readers; though these familiar lessons are lucidly and most acceptably presented.

The author manifests an unwelcome ignorance, when he states that it is only in Russia that cholera prevails in winter; and that it prevails there at that season because the natives live in close, badly ventilated, and over-heated dwellings. The history of cholera in America gives a different lesson. One of the worst epidemics of Asiatic cholera which ever visited Charleston, S. C., was that which prevailed in December, 1852; when the ground was frozen, and the streams for days were covered with ice. It has prevailed in many places in this country in winter.

The publishers have issued this little work neatly and opportunely.

A Manual of Medical Jurisprudence. By Alfred Swaine Taylor, M. D., F. R. S. Seventh American from the Eighth English Edition; edited by John J. Reese, M. D., Professor of the University of Pennsylvania. Philadelphia: Henry C. Lea. 1873.

This work is so well known to every one who knows anything of medical jurisprudence, that it is not necessary to do more than direct the attention of the reader to the fact, that a

new edition has just been issued. The American editor, Dr. John J. Reese, of Philadelphia, exposes himself to criticism even in the title-page, where he represents himself to be a Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania. If this be true, the advertisements and catalogues of the University do him gross injustice; for his asserted relations to the school are in no single instance therein so mentioned. That in the small summer school of the University he is a teacher of the branches named, is true, but the relative importance of the two positions is very great; so Dr. Reese claims in the work under review a position which he does not occupy, and to which he is not entitled. Most of this old work is published with few material alterations or additions. A conspicuous addition is that portion of it devoted to a review of the evidence in the trial of Mrs. Wharton for the alleged poisoning of General Ketchum. This review is materially false in regard to the facts mentioned, and is more false in regard to the facts suppressed. This old work can scarcely escape repudiation as an authority in forensic medicine, when it is unquestionably true that the author, in analyzing the evidence given in a celebrated and most notorious trial, is guilty of the meanness of suppressing some of the evidence, and of the treachery of distorting other portions of it; "ex uno disce omnes" is an old Roman axiom, as true as it is classic. When an author can be shown to be unreliable in his presentation and analysis of evidence in one case, who can trust him as an authority in his disposition of evidence in other cases? It may be said, that in the Ketchum case Dr. Taylor erred from ignorance; but he can not receive such consideration, as it is known that the whole evidence was reliably sent to him.

As much censured as Dr. Taylor will be in this matter, the Public will treat him but lightly, when this treatment is compared with that reserved by it for the American editor of this work, Dr. John J. Reese, of Philadelphia. Dr. Reese, as is well known, was summoned as an expert in the celebrated trial mentioned; whether summoned through his own intervention,

or otherwise is immaterial; he was a witness in the case, and not only a witness, but he published a review of the evidence; or rather a paper claimed to be a review of the testimony, though this review has been twice demonstrated to have been partial, unfair, and untruthful.

Dr. Reese is, therefore, thoroughly familiar with the evidence in this trial, and with the papers published subsequently by Drs. P. Williams, W. Aikin, and S. C. Chew, of Baltimore. Being familiar with the evidence, he knows that much of it published as evidence by himself can not be substantiated by the records of the court; and being familiar with the papers of the gentlemen mentioned, he knows that many material facts of his published evidence, and his report of the evidence of others, has been impeached and denied. While, perhaps, he could not (with all such information in his possession) alter the text of Dr. Taylor's work, he certainly, as an editor of it, and making many notes elsewhere in the volume, could, in such notes, have stated that his report of the evidence (upon which Dr. Taylor chiefly relied) had been impeached, contradicted, and repeatedly challenged by gentlemen certainly his equals (to say the least) professionally, personally, and scientifically. Such a course was due to science; due to the author whose book he was editing; due to forensic medicine; due to the Profession; to himself; and, above all, to truth. He has, by his silence, endorsed statements of Dr. Taylor which are unjust and very materially untrue. He stands before the Public, therefore, as the endorser of paper known to be spurious and counterfeit. The result is, as may have been anticipated, Taylor's Medical Jurisprudence can not longer be cited as respected authority. Judges, courts and juries can be made to distrust and repudiate citations from a work now so visibly unreliable and untrue; reliable and untrue through the action of its author; and reliable and untrue through the failure of proper and honorable action on the part of its American editor. Works, like witnesses, will always be fully and promptly repudiated when they can be shown to be false and unfair.

On page 78 of this work, Dr. Reese virtually accuses the Maryland Court, by which Mrs. Wharton was tried, of meanness, partiality and injustice, in allowing the prosecution to exhume the body of General Ketchum, while this privilege was not extended to the defence. This accusation is not only mean, but it is unjust, ungenerous, and unmanly. The answer is simple; the defence could have had and would have had the same privilege of exhumation if they had asked for it, but exhumation was what the defence specially dreaded. They knew that the body of Ketchum contained poison,* and they most religiously abstained from examining it. They were afraid to do so. Under such circumstances, to accuse a court of withholding permission to exhume this body, when the defence feared to ask permission, fearing that the request would be granted, is not only mean, but it is ludicrous and contemptible.

Attention is again called, in connection with this volume, to the crying evil, in publishing foreign works in this country, of having them injured by American editors. In almost every instance, this editor injures the work, or does nothing to increase its value; it being simply used as an advertisement for himself; as a buoy to sustain, on the current of medical literature, those who mentally are of such great specific gravity that they would inevitably never be seen upon the surface, if it were not for this device; this ingenuity of editing foreign works and like parasites clinging to them for sustenance and public recognition. Foreign authors have sufficient grievance in the fact that, from the want of an international copy-right law, their works are published in America without compensation being made to themselves; to add to this unquestionable grievance that of having their works edited by any obscure or incompetent individual who seeks thus to be advertised, is adding to grievance constructive fraud or real injury. These parasites, like all parasites, sap the strength and diminish the develop-

* Which was subsequently found and shown (too late) to the Judge, court and jury,

ment of the organizations upon which they foist and feed themselves. It is a great nuisance, and American physicians should repudiate and condemn it.

In the present instance, the American editor has contributed about seven pages in a volume of nearly eight hundred pages. In no single instance does any of his notes add to the value of the book; in many instances they impair its value; and very frequently they are so introduced as manifestly to be used for the gratification of personal and professional ill feeling towards distinguished gentlemen, whom the American editor seeks to injure and annoy. This spirit would be petty and contemptible, even were it manifested in elucidating scientific truth; but when, on the contrary, many of these notes are made the vehicles of positive falsehood, detraction, and gross injustice, it is impossible to do less than to transfix such an editor and hold him up for the censure and reprobation of the Public. In this connection it is note-worthy, that in presenting the subject of poisoning by antimony, nothing is said by the editor of the similarity of the precipitates obtained in testing fluids containing antimony and gelseminum; this great discovery of the American editor before the Maryland Court is abandoned in shame and mortification. It is also note-worthy, that in his notes Dr. Reese impresses upon the mind of the reader, that in no case can symptoms alone be accepted as a guide; the poison must be found; yet in the celebrated Pennsylvania case, Dr. Reese, after being unable to find any traces of poison in the dead body, testified from the symptoms that the deceased was poisoned by strychnine; and the accused in this case was executed. So remarkable was the difference in his views in this connection, that the Maryland Judge suggested the only solution to the problem—viz., that when Dr. Reese acted as an expert in the case of Mrs. Wharton, and insisted that the symptoms of Van Ness were not sufficient evidence, there must be proved the presence of a poison, he was a witness for the defence; but that when called in the Pennsylvania case, and aiding in securing the execution of the accused solely upon symp-

toms as evidence, he was a witness for the prosecution. Like Dr. Wood when rebuked by the Maryland Judge, "he always supported his side of the question."

His connection with the work will surely insure the repudiation it otherwise would most probably have received as a work of scientific accuracy, justice and impartiality; and is a fit illustration of the useless, unjust, and unfair course of crippling foreign works with the parasitic nuisance of an American editor.

The publisher has issued the work with care and elegance.

CONTRIBUTIONS TO MEDICAL SCIENCE FROM THE BUREAU OF MEDICINE AND SURGERY, U. S. NAVY DEPARTMENT.

This work is made up of essays from naval officers; these essays are chiefly on naval hygiene; examination of recruits; receiving ship; navy-yard; humidity; ventilation; light; cleanliness; food; water; sleep; exercise; climatic and moral influences; sanitary regulations, etc. In the main, these papers are good. One of the good results of the literary work executed in the Surgeon-General's office is that it has stimulated kindred Bureaus to activity in literary usefulness. This volume from the Naval Department is good. It is hoped that others will soon be issued.

AN INTRODUCTION TO THE STUDY OF CLINICAL MEDICINE. By OCTAVIUS STURGIS, M. D., Contab, London. H. C. Lea, Philadelphia. 1873.

This little octavo of 120 pages is a welcome addition to the library. It serves to illumine many dark paths in the field of diagnosis. Much attention has been paid by the author to physical diagnosis.

THE STUDENT'S GUIDE TO MEDICAL DIAGNOSIS. By S. FENWICK, M. D., F.R.C.P., London. Third Revised Edition. H. C. Lea, Philadelphia. 1873.

This is altogether a more pretentious, elaborate, and satisfactory work than that last mentioned. It is fully and well illustrated. The descriptive is lucid; the diction good; the text

plain and satisfactory. There is, perhaps, no work before the Public of a similar character superior to it. It is an octavo of 306 pages, and will doubtless be generally obtained and valued. These new works of Lea are all well and carefully issued.

An Introduction to Practical Chemistry. By John C. Bowman. Edited by Charles Bloxam, F. C. S. Eighth American from the Sixth English Edition. Philadelphia: H. C. Lea. 1873.

The chief changes in this work, since the publication of the last edition of it, will be found in connection with the subject of analysis, quantitative and qualitative. In other respects, little change has been made. It is too well known to render an extended notice necessary.

Civil Malpractice. By M. A. McClellan, M. D. Chicago: W. B. Keen, Cook, & Co. 1873.

This is an interesting and valuable book. It is intended to show what is malpractice; giving the legal and medical decisions in connection with this important subject. It is an octavo of only seventy-five pages, and can be purchased with ease by all.

A Text-book of Physiology, General, Special and Practical. By John Hughes Bennett, M. D., F.R.S.E., Edinburgh. Illustrated with Twenty-one Plates. Philadelphia: J. B. Lippencott & Co. 1873.

This work is all that the author claims for it; a modern manual of physiology. It is fully abreast of the tide of physiological literature, and will be found a lucid and valuable guide to the student, old or young. It is a multum in parvo; a large kernel in a small case. It will be generally purchased and valued. It is certainly a very valuable work; concise, terse, comprehensive.

MEDICAL NEWS.

'Nulla dies sine linea."

Death of the Distinguished Surgeon, Nelaton.—The death of Dr. Auguste Nélaton is announced in the cable dispatches. From a daily newspaper we clip the following notice: "Dr. Auguste Nélaton, one of the most famous physicians of France, whose death has been announced in our cable dispatches, had completed his sixty-sixth year, having been born on the 17th of June, 1807. He was a pupil of Dupuytren, received his medical degree in December, 1836, and soon after became surgeon to the hospitals and a member of the Faculty of Medicine. In 1851 he was appointed Professor of Clinical Surgery in the University, and in 1856 was admitted to the Academy of Medicine in the section of Chirurgical Pathology. Originally decorated with the ribbon of the Legion of Honor in 1848, he passed through its various grades to the position of commander. He was chosen a member of the French Academy of Sciences in 1867, and soon after relinquished his professorship on account of feeble health. He was the author of several works on medicine and surgery."———*The Tragic Death of Obermeier.*—Dr. Obermeier, late assistant of Professor Virchow, fell a victim, as is well known, to experimentation upon himself in seven hours after injecting the blood of a cholera patient into his own body.—*Nat. Zeitung* This is conclusive as to the malarial origin of cholera!!———*Deaths.*—M. Coste recently died at the age of sixty-six. He was Professor of Physiology in the College of France, and was distinguished for his researches on the development of the embryo in man and animals, and more recently for his labors in the cause of pisciculture. We regret to learn that Professor Czermak, the celebrated physiologist, died recently at Leipzig. Dr. Moritz Heinrich Romberg died of chronic disease on the 16th ultimo. He was born in Meiringen, and graduated in medicine at Berlin in 1817. Dr. Thos. Miller, of Washington, D. C., died suddenly at his residence in

that city on September 20th. Professor Dixi Crosby, M. D., LL. D., of Dartmouth College, Hanover, N. H., died on Friday, September 26th, at the age of seventy-three years.—*Ex.*——— *A Simple Formula.*—We read in one of our exchanges that "Virchow has reduced heterologous pathology to the simple formula of heteralopia, heterocronia, heterometria!!"—*Ex.*——— A Medical Bureau is about being established by the Erie Railway for the free treatment of persons injured by accident.—*Ex.* ———A recent American publication, from the pen of a medical philosopher who is too well and too favorably known to need such a display, appends to the author's name a long list of societies in different parts of the world, of which he is a member, one of which reads thus: Member of the Verein Wurtembergischer Wundarzte and Geburtshalfer, of the Provincial Utrectsch Genootschap Van Kunsteu eu Wetenschappen.—*Ex.* ———*An Attack on Baby-Wagons—Much ado about Nothing.* The "Medical Times and Gazette," (Eng.), has the following article on this subject, which presents it in an important point of view: M. Latour calls attention to the mischief which may arise from the now almost universal employment of perambulators for the transport of children. He chiefly dwells upon what happens to young infants, who, in place of resting on the nurse's arm and gradually bringing the muscular system, which supports the trunk erect, into use by exercise, and accustoming their senses to the perception of surrounding objects, now lie recumbent and somnolent in a state of dangerous quiescence. Woman, he believes, is thus abdicating yet another of her functions, which, in all eyes but her own, render her attractive; and although she may relieve herself of some fatigue, it is at the risk of the welfare of her child. "Certain I am that an *enfant a equipage* is a retarded infant; it will walk later, talk later, and smile later"!!———Dr. Abraham Jacobi and Doctress Mary C. Putnam, of New York City, have entered into partnership for life. The former is well known as a distinguished practitioner and writer, and the latter as Professor of Materia Medica in the Woman's College.—*Ex.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

MEMPHIS AND SHREVEPORT.—The last reports from these unfortunate cities represent that the horrible epidemic of yellow fever, prevailing there recently with such unprecedented malignity, has virtually ceased. There is not much of interest that has been contributed to medicine by the history of the epidemic. It has been demonstrated that the first case of fever observed in Memphis was carried there, and that from this focus the disease radiated and spread. The family, nurses and friends of this patient, to a great extent, contracted the fever from this case, and many of their friends and families contracted the disease from them. So the fever originated, and so it was disseminated, carried from house to house, as any other contagion would be carried. It is true, the fever originated in the more miasmatic portion of the city, and there remained for some time, inducing many to believe that it was due to local malarial cause, but such reasoning was soon dissipated, when the disease was carried into the cleanest and best portions of the city, and there spread with a malignancy and fatality absolutely appalling. It was carried from house to house in repeated instances, and its steps could thus clearly be traced.

The Profession learns thus the lesson long since accepted as the truth by many, that yellow fever is a transportable disease; and while, in these days of railroads and general communication by inland lines, it is the supremest folly to attempt to quarantine yellow fever, physicians should certainly be glad of all demonstrable evidence that justifies them in speaking directly in regard to it, and not, as has so long been done, evasively and uncertainly. They can tell their friends, that while yellow fever has its zone or its habitat, it can certainly be transported, and that unless there is a peremptory call to the bedside of yellow fever patients (the call of affection, duty, charity, or friendship,) it is unwise to be subjected to such direct and dangerous exposure,

It is nearly fifteen years since this view has been adopted by many of the most prominent physicians and sanitarians of the world, and the recent epidemic is directly confirmatory of its justice and accuracy. The truth is, that all fomites are transporting media of yellow fever; the hold of a ship ranking high on the list; the healthy human body (if fomites at all) to be ranked last; the best evidence tending to show that a healthy person, after being exposed, can not, if the clothing be changed, transport the poison of yellow fever.

Memphis and Shreveport, in their recent histories, have then fortunately demonstrated to science that yellow fever is a transportable poison.

These epidemics have been unusually fatal, and the percentage of those contracting the disease unusually large. Nothing specially valuable has been proved in reference to the treatment of yellow fever. Preponderating testimony is in behalf of large doses of calomel and quinine early in the disease, the latter often repeated. It certainly gives as good, if not better results than the varied and miscellaneous treatment advocated.

The suffering in the stricken cities has been immense, but the aid extended in money and material has been princely. The great heart of this country has been deeply touched, and communities in all sections have contributed munificently. No city has done more than Louisville; her churches, mercantile organizations, Masonic and Odd Fellows' Lodges; her workmen in all vocations, and private citizens, have responded nobly; far above all, however, in this beautiful work, stand her noble and devoted women, who by public entertainments, dramatic, spectacular and social; by direct solicitation, and by the exercise of unceasing influence, have contributed to swell the treasure demanded for the noblest purposes on earth; for comforting the sick; for feeding the hungry; for clothing the naked; for assuaging the suffering and mitigating the affliction of the desolate widow and the helpless orphan. In this connection should be mentioned the name of Dr. Luke P. Blackburn, a Louisville physician, who, at the commencement of the epidemic, went to

offer his services, and who, during all the terrors of the past month, has stood nobly and faithfully at his post. A part of his good work was to cane a medical impostor and charlatan from Chicago.

The physicians of Memphis have, as a rule, stood faithfully at their posts; some left after exhaustion and illness, but as a rule medical men seem to have done their duty. When all fled who could, they remained, giving generally their services, as the Great Physician gave his, "without money and without price."

Memphis, like many foolish cities, has, until recently, done nothing for the health of her citizens; without a Health Board, drainage, or sewerage; her garbage most often unremoved, her streets and yards often uncared for, what wonder is it that when the plague swooped down upon her, that, as is always the case in bad atmospheres, it manifested unusual prevalence and malignancy. She has striven hard and well to lessen her evils in the past few weeks, but such a spectacle reminds one of that presented by those foolish virgins who left their lamps empty and untrimmed, and were destroyed because of their carelessness and neglect. This is a lesson that all physicians should quote over and often to their own communities.

When this stricken city was burning, cleansing, purifying, disinfecting foul places, there was presented to her citizens, through one of their newspapers, a lengthy abstract from a Mobile newspaper, showing the inutility of great reliance on the chief disinfectant, carbolic acid. This jeremiad against carbolic acid was published in a Mobile paper over the signature of that prince of charlatans, Dr. Jerome Cochran, of Mobile. His great argument being that, in Mobile, when yellow fever patients were carried to Mobile hospitals, these patients died, though carbolic acid was largely used in these buildings; and again, that in sections of Mobile where no carbolic acid was used, there no yellow fever prevailed!! The silliest argument on record was that whereby a horse-chestnut is proved to be a chestnut horse; but Cochran, if he has done nothing else in

this world, has certainly destroyed that most classic of pseudo-logical illustrations, placing in its stead something which may be regarded as unapproachably stupid; this wonderful syllogism of his in regard to carbolic acid. One hears of champion chickens, churns, stallions, babies, etc. No one has, however, offered, so far, anything claiming the position of champion stupidity; in hygiene, at least, this has now been done; and, wonderful to relate, by the health officer of Mobile. Dr. Cochran is enthusiastically opposed to local disinfection of garbage. In his opinion, offal should be given (as a job) by each city to some one who can haul it away, manipulate it; convert it into money.

Seriously considering this matter, it ought to be known that, in a beautiful and scientific series of experiments recently made known by the Medical Department of the British Army, after faithfully trying the effects of all disinfectants, deodorants and parasiticides, carbolic acid (with one exception, the bi-chromate of potassium,) was superior to all of them.

In considering the Memphis and Shreveport epidemic, allusion has been made to the pictures it has presented from tragedy, melodrama and comedy; it is appropriate to present that from the after-piece, the farce. This, happily, has but one scene; Cochran, in the rôle of a scientific man, standing near the foot-lights abusing carbolic acid *and advocating the great advantages of a garbage dumping-ground*, while in the background are seen many sanitarians and the members of the Mobile City Council convulsed with laughter.

All farces must have a title; the one suggested for this is: THE NEW ROMANCE OF A POOR YOUNG MAN; or, OFFICIAL INGENUITY IN QUEST OF MUNICIPAL GARBAGE.

MEDICAL SCRIBBLERS FOR SECULAR NEWSPAPERS.—In the Selma letter, published in this number of the Journal, will be found excellent comments upon the crying and discreditable evil of physicians scribbling for newspapers. The code and custom of the Profession both forbid medical men from adver-

tising themselves in the daily Prints. Physicians almost universally observe this rule; some from the hightest principles recognized among the gentlemen of the Profession; others from abject fear of professional censure or of absolute professional ostracism. As the result, it is seldom indeed that a physician appeals to the advertising columns of a newspaper for the purpose of self-advertisement. Law and custom have thus checked what, in this respect, was a disgraceful manifestation of charlatanism among those medical men who have weak conceptions of professional rectitude, honesty and right.

In the language of the Scottish King, however, "We have scotch'd the snake, not kill'd it." There are yet great numbers of weak and dishonest men in the medical ranks who, afraid to advertise themselves directly in the newspapers, are continually, under one stupid pretext or another, scribbling for these papers, and appending their signatures in full to each of their precious productions.

The Selma letter of a prominent physician of Alabama is chiefly written after his reading for the past six months the "Courier-Journal," of Louisville, Ky., and he, in common with thousands of decent and respectable physicians, feels outraged at the stupid and interminable discussions in regard to cholera, which have appeared in the newspaper mentioned, over the signatures of Drs. T. S. Bell, of Louisville, Ky., R. C. Peters, of New York, and several others claiming to be physicians of good character and fair dealing. Of course these writers are fully aware of the folly of arguing questions of a strictly scientific character before a jury (the secular public) of a strictly unscientific education; they are also aware that, after all of their pleadings, such a jury can not possibly give a verdict; or, if a verdict be given, that it must necessarily be worthless! None know these facts better than these medical scribblers for the daily Prints. What then is their object? The question is easily answered. Their object is to advertise themselves; to make a parade of that species of medical fustian which passes with the masses for science; to obtain thus professional and pecu-

niary advantages which fair-minded and respectable physicians would scorn to accept; to profit pecuniarily by these advantages, though their course destroys public confidence in physicians, and directly impairs the usefulness and dignity of the Medical Profession. They may weave, as they do, tissues of absurdity; they may make the grossest blunders; they may demonstrate to educated physicians that they (these professional penny-trumpeters in the daily Prints) are charlatans in science, as well as in moral principle, but the true men of the Profession will not soil themselves in securing easy victories over such persons, by entering so disreputable an arena.

One might as well enter the saw-dust ring at a circus to correct the diction of a clown who, in spangles and fustian, comes forth "to strut his brief hour" for the purpose of receiving the applause and money of the masses that stare and gape at the great and glittering man before them. When they go home, however, and recover their reason and judgment, they say, "that clown is an amusing, but low fellow; how hard must be the pressure upon such a man, or how contemptible must such a man be, when he stoops to such means for notoriety and support." And so the spangled hero of the hour is declared to be a wondrously shameless and unfortunate fellow; a professional clown. Again, one might as well stop at the street-corners to correct the poetical versions of the poor organ-grider, appealing with his poor music and poor monkey for professional notice and reward. To enter the columns of the daily newspapers to shame and silence those professional violators of medical custom and law, who there present their spangles and fustian and little devices to attract the notice and gain the money of the public, would be to the gentlemen of the Profession an office even more repulsive and unprofitable than to instruct the clown or correct the musical owner of the monkey.

There is but one redress for the Profession; it is to place all such scribblers in coventry, and show them that if they must blow their penny trumpets for the Public, that this can only be done by relinquishing all claims to the respect and confidence

of the reputable members of the Profession. When physicians determine to repudiate and reprobate all of their number who disgrace and injure their profession by pseudo-scientific scribbling for the daily Press, this contempible practice will cease; or at least be practiced only by those physicians whose loss will be a great gain to the decency and dignity of the Medical Profession.

Of course no one can object to the proper medical officer giving such instructions to the public as will secure and promote the public health; and, of course, no one can censure any impulsive, injudicious physician who, without sufficient thought, recklessly thrusts himself and his writings upon medical subjects before the secular public. Reference is not made to such physicians, but to the persistent scribblers who, in defiance of the custom, welfare, wishes and sentiment of the Profession, are constantly seeking personal, professional, or pecuniary profit, by writing (over their signatures) for the daily secular Press.

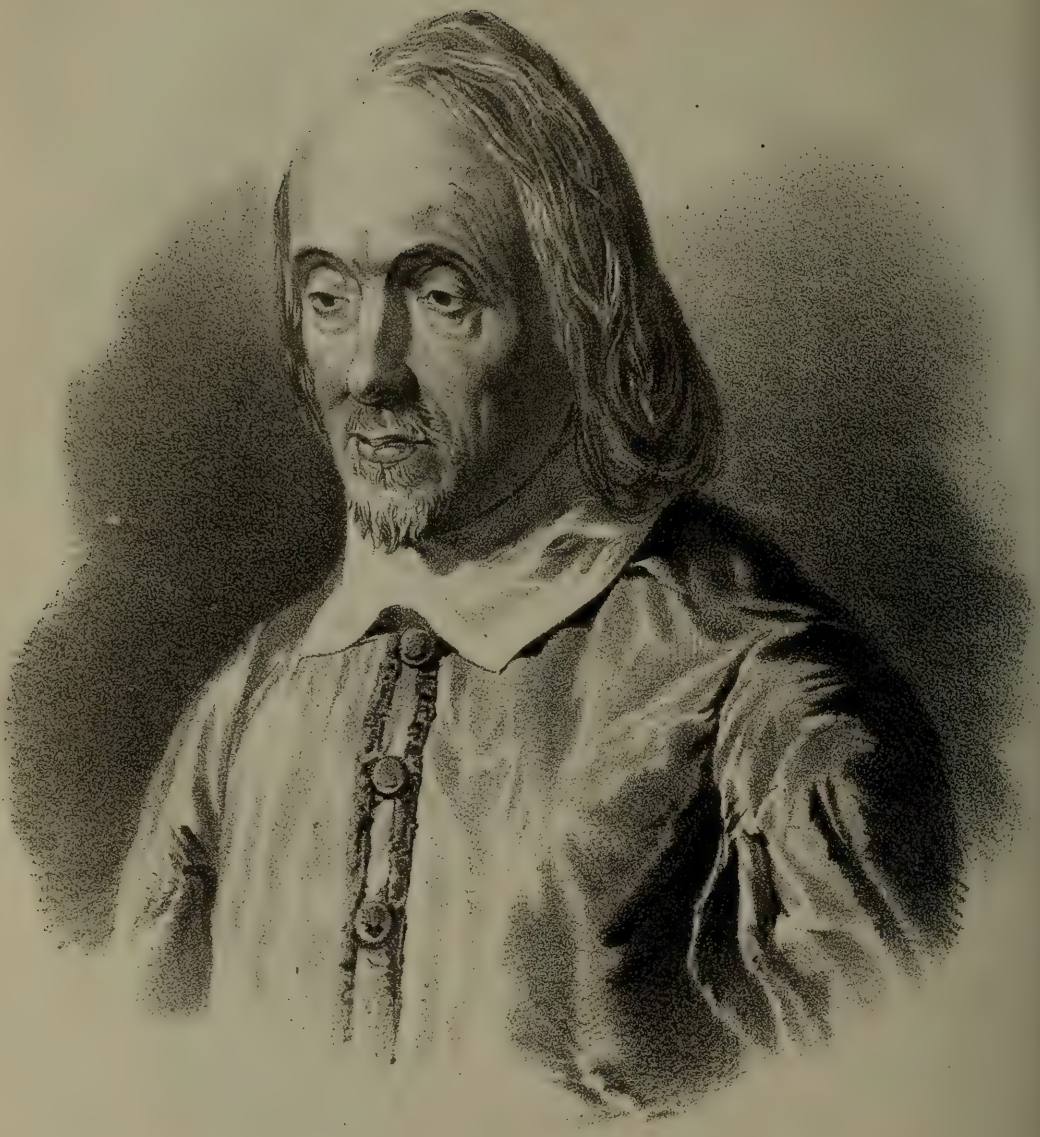
As to publicly prescribing for the public through the columns of the daily Press, this, to the credit of physicians, is seldom or never done. Those physicians in this city who attempted it last summer are thoroughly ashamed of themselves; and it is safe to say that they have gained an experience in this connection as profitable as that of the burned child, who entertained such a horror of fire. In nursery phraseology, "they are very sorry, and wont do so any more."

Registration of Births, Marriages and Deaths.—Every physician is, of course, interested in the passage of a law providing for such registration. For its great advantages, readers are referred to the able letters from Dr. S. A. Foss, of Lacona, Ky., published in the October and November numbers of this Journal, and to other letters which he will continue to present. Dr. Foss has said so much, and so well, that he has left nothing for others to do, but to refer the reader to his letters.

Physicians are advised by all means to read these letters. The subject is not discussed only in relation to Kentucky, but to all the States. Those who wish to have such a law passed in their own State, should read the arguments presented by him. Kentucky physicians are striving to have such a law enacted. The State Society legislated to this effect in Paducah, April, 1873. A committee was appointed to secure the coöperation of the physicians of the State. Dr. Foss, the chairman, is the only member of that committee who has done anything; he has worked admirably; he has sent blanks to physicians in every county, asking that these blanks should be filled with the signatures of all citizens, forcing thus the Legislature to respond to the voters of the State, and thus enact the law. The following counties have responded: Bracken, Boyle, Butler, Bullitt, Fayette, Green, Hart, Henry, Henderson; Jefferson, Jessamine, Kenton, Lyon, Mead, Montgomery, Nelson, Owen, Oldham, Perry, Trimble, and Union. In the other counties the physicians have done nothing; absolutely nothing. The physicians on the committee with Dr. Foss have done nothing; the physicions of Paducah, where the Society enacted the law, have done nothing. Is not this discreditable?

In the next number of the Journal there will be given the names of derelict committeemen and officers of the Society; also the names of those who, talking a great deal in regard to this matter, have been too indolent to do anything whatever. The leading physicians of derelict counties are doing nothing. They are, it seems, always prominent when talking is to be done, but valueless when work is to be done. Shall this inertion, this laziness, continue? It is to be hoped not. All physicians, whose county lists are not completed, should be up and at work. The Legislature meets in December.

Erratum.—The review of Dr. Gouley's work by Dr. J. L. Cabell, page 266 of the Journal, is inaccurate. In the sixteenth line, instead of the text being suggested *to* Dr. Gouley, it should read, suggested *by* Dr. Gouley.



WILLIAM HARVEY, M.D., F.C.P.

Hart & Mapother lith. Louisville Ky.

THE RICHMOND AND LOUISVILLE

MEDICAL JOURNAL.

VOL. XVI. DECEMBER, 1873. No. 6.

ORIGINAL COMMUNICATIONS.

"Qui docet discit."

ART. I.—FOREIGN BODIES IN THE AIR-PASSAGES. By J. DRUMMOND BURCH, M. D., Yazoo City, Miss.; Late Professor of Anatomy in the Louisville (Ky.) Medical College.

A friend, whose nobility of character enables him to see something of interest in the work of a laborer in the same field, has caused me to put on record the two following cases of foreign bodies in the air-passages, occurring in my practice during the past year. The last I submit as one of as much interest as any recorded that I now remember. I believe no two cases contrasted could fix more indelibly on the mind of the young practitioner the difference in symptoms between a case in which the foreign body is movable and one in which it is fixed in the air-passages:

February 24, 1872.—At night Dr. J. P. Moore was called in to see Lena, aged six years, daughter of Mr. C., then living on Como Plantation, ten miles from this dity. Dr. M. requested

me to accompany him. We arrived there about 1 o'clock A. M.

On inquiry, it was ascertained that the little girl, while amusing herself, about noon on the 24th, with some fusiform glass beads in her mouth, got one in the windpipe. Mrs. C. showed a bead of the same size, saying the one in the air-passage was smooth, and unbroken as the one exhibited, which presented several sharp edges and jutting fragments. Location of the foreign body was readily determined, since it could be heard making its harassing transit up and down the trachea at each expiration and inspiration. The foreign body, at irregular intervals of a few minutes or a quarter of an hour, would drop in a bronchus, and the patient would rest quietly, suddenly to be aroused with an alarming feeling of suffocation; croupy cough would begin, and the bead would be sent forcibly up to the larynx, drop back again to the lungs, and so up and down; the cough becoming often distressingly spasmodic; anxious expression of countenance; bronchitis and laryngitis kindling up rapidly, with accompanying train of symptoms, becoming hourly more marked; voice hoarse; patient indisposed to talk, since it excited cough; heart, during paroxysms, fluttering like that of a frightened bird. Pulse accelerated when patient was quiet; feverish.

As we were at hand, prepared for any emergency, and but a short time to wait, I asked delay till daylight. Though lying down, and seeming to others to sleep, I listened anxiously to the more and more labored respiration as the long hours dragged themselves slowly towards morning. About 4 o'clock the respiration was so distressing as to cause the already nearly crazed mother to appealingly ask if it was not "time to wake the doctors." Those acquainted with the poor lamps and candles generally met with in the country, alone know how devoutly thankful I was when day appeared.

We first attempted to secure the expulsion of the foreign body by exciting cough while the patient's head was held down, hips elevated, etc., but these efforts threatening life—bringing on violent, spasmodic cough, lividity of countenance, suffocation—

we speedily desisted. She was then placed thoroughly under the influence of chloroform by Dr. M., and I proceeded to perform laryngo-tracheotomy, the neck being a short one. As she rested quietly while under the influence of the anæsthetic, it gave me ample time to "hasten slowly." Before making incision through the trachea there was not a drop of blood flowing from the superficial parts—hæmorrhage wholly checked by cold water and air. Finally I cut through the two upper rings of the trachea, the cricoid cartilage, and a short distance beyond through the crico-thyroid membrane. Patient resting quietly, foreign body being in bronchus, I seized a probe, and introducing it through the artificial opening downward in the trachea, I tickled a cough or two from the little unfortunate, and out came the bead, falling on the table about eighteen inches from the incision, through which it was expelled.

Foreign body five-eighths of an inch in length, seven-eighths in circumference, and weighing not quite a scruple. I waited a short time to check all hæmorrhage, not willing to have troublesome cough from blood trickling into the bronchi, which might disarrange the dressing and adjustment of the parts, retarding union. The patient meanwhile coming almost entirely from under the influence of chloroform.

The wound having been closed with adhesive strips, she was put to bed, and almost immediately passed into a sweet, natural sleep, so much needed.

I was told that she was up, about the house, in five days, without a single untoward symptom.

Ten days after the above operation, March 6th, evening, William M. B., aged sixteen years, was sent by his grandfather, Mr. L., of Mississippi, to my friend Dr. W. Y. Gadberry, to have a foreign body removed from his air-passage. Dr. G. having kindly commended me to Mr. L., the case was placed in my hands. As I was a comparative stranger in this community at that time, having resided here only about three months, and being a *youngish* man, difficulties arose before me of a peculiar nature, which cause me now to relate the case, in a some-

what unusual manner, for the benefit of those professionally younger than myself, and the entertainment of others who have been similarly situated.

William, while walking through a field the day before we saw him, in the evening, plucked a cockle-burr, he says of the usual size, and was "playing with it" by pressing it to his lips. Inhaling suddenly, it entered the windpipe. He said it "scared him," and he started towards the house, "running part of the way." He *could not cough*, but hawked up a little blood. Could only speak in a whisper. He saw two physicians before he was directed, by one of them, to Dr. Gadberry, walking and riding meanwhile. When he arrived here could walk about, and seemed very little annoyed at the accident. Complained of some soreness in larynx, and confident from the "feeling" of the part to him that the burr was lodged there. Head carried bent slightly forward; neck held stiff, turning his shoulders when he looked from side to side, or turned the head partially around, and always very slowly and cautiously, as if afraid of hurting himself; trachea flattened and drawn upwards, with cricoid tucked firmly up against the thyroid cartilage. Now and then, as he walked about unconscious of observation, he was seen by us to "duck" his head forward and make a quiet, somewhat prolonged blowing effort to hawk up. Occasionally he cleared the air-passages of a little phlegm, but with difficulty. He made no violent effort to clear the windpipe at any time while I observed him; hence the expression "quiet effort." By "difficulty" I desire to convey alone the idea of *imperfect* or *unsatisfactory*. He rode, on the 6th, fully ten miles horseback (riding alone on the animal), before reaching this city. He walked up in the city to see us, and continued to walk about every day till the operation, retiring and rising early. When sitting up or walking about he got on so comfortably that a casual observer would never have suspected anything out of the usual way with him. One noticed an air of awkwardness and restraint that most boys reared in the country manifest when among strangers, that was all.

Dr. Gadberry and I, after examining the fauces and exploring the upper part of the larynx (this last I did more carefully with a long, curved probe-shaped wire, when alone with him later the following morning, regretting beyond expression our inability to procure a laryngoscope), commenced a careful auscultation and percussion, having noticed only some œdema about the epiglottis, and that it did not close back perfectly natural. No obstruction could be discovered in the upper part of the larynx.

On applying a stethoscope over the larynx, a blowing, wheezing sound could be heard; such a noise as air might make passing by such a foreign body, and partly between its spines when thickly invested with mucus; or, air passing between scratched and greatly inflamed vocal cords and œdematous surrounding parts. Both expiration and inspiration being slightly labored; expiration being the most difficult, very noticeably so at this time, first evening when reclining; becoming latterly remarkably so, and to be discerned readily by the professional eye when walking about.

Sound over trachea same as noticed higher up, only modified. not so loud.

On examining the chest, rude bronchial breathing could be heard on the right side; slight bronchial irritation on the left; air entering right far less freely than the left lung. Here was something to lead aright or astray; the *right* bronchus and its bifurcations particularly involved. This, with the discovery that expiration was more difficult than inspiration, and the sound heard in the larynx, inability to cough or to speak, were facts rapidly resolving themselves into a tangled skein, unless the knots were acknowledged untied by the chief of our clan—Gross—who says of difficult expiration: "This is particularly the case when the foreign body *lies in one of the bronchial tubes.*"

We had the best reason for thinking such a body might have passed the rima glottidis.

Young Mr. C., of this county, lost his life from a cockle-

burr having passed down the trachea. Dr. Gadberry saw the case at too late a date to accomplish any good by an operation.

The patient before us seemed so little inconvenienced that it was difficult to believe that the foreign body was lodged in the larynx; such a body, too, as a burr with its numerous spines pressing into all the soft parts around it! Nevertheless, taking all things into consideration, I believed the burr in the larynx, though I will frankly confess I was, at this date, *very* "open to conviction" to the contrary. I requested Dr. Gadberry to call in the practicing physicians of the city to examine him next day (7th), having *determined not to operate without their approval.* I did not know these professional men; the community did not know me in a way that would secure me from being "damned with faint praise," in the event good fortune failed to rest on my knife, the patient dying on the table, possibly, as has befallen the most skillful operators.

The patient slept in the same apartment with me. Soon asleep when in bed; breathing much worse than when sitting up or walking about; expiration particularly distressing to the listener, though the boy slept and seemed to take no note of his misfortune. On awaking next morning, I found that the bronchial trouble had increased. On inquiry, I made a discovery that had escaped us in our examination the evening before—chiefly physical exploration. We had omitted to ask if he had cough, pain, etc., before getting burr in windpipe. He answered now to these questions that he had cough and some soreness about the chest, chiefly on the right side. I will confess that the sound, after that answer, on auscultating larynx, seemed to indicate plainly to me the position of the foreign body, and that the inflammation of bronchi had been increased by spreading inflammation downward from the new site in the larynx. He was examined during the 7th by Drs. P. J. McCormick, R. L. Dunn, and J. P. Moore. All thought an operation necessary, and so expressed themselves; and, after consultation, I believe it was almost one opinion that the burr was in the larynx.

As these gentlemen were otherwise professionally engaged,

much of the day was spent in arriving at their several and joint opinions; also some preparation of instruments that might be needed in the case; so it was determined to operate the next morning—8th.

I again heard the breathing of my patient at different parts of the night of the 7th. All the inflammatory symptoms of the air-passages increased and grew worse as the night progressed.

After a little unavoidable delay on the next morning, he was placed on the operating table. I think it important (it certainly gives me pleasure) to state that I never saw a braver youth. He arranged himself on the table as calmly as if preparing for a morning nap, and such an occurrence as a cockle-burr in the windpipe had never been heard of by him. But for this unusual fortitude, I believe he would have worried into a far worse condition during these dangerous hours of delay. Chloroform had been given almost to complete anæsthesia, and I was about to commence the operation, when Dr. McC., for whom I have professionally and socially the highest regard, walked into the room and asked me aside. In substance he stated that he had thought about the case during a ride in the country; called to mind the grandfather of the boy, a Methodist minister, who had been greatly affected with laryngitis; thought there might be predisposition on the boy's part to same affection; he had the kindest feeling for me professionally, but I must excuse him from giving countenance to the operation by witnessing it, and that he now recalled his previously expressed opinion. I have never met greater candor and politeness. My resolve was taken so soon as the Doctor made his candid communication, for which I shall ever thank him.

I called Dr. Gadberry aside and told him what had occurred, and that I positively would not operate under the circumstances. I offered him my knife, but he was my tower of strength. He declined, and called a consultation. Dr. McC. had, I think, left the room after seeing me. I had nothing to say, so made, I hope, an eloquent listener. Dr. G., of course,

urged that the boy was dying inch by inch, sketching the history and symptoms of the case in a manner charming to me, adding some of the very best steel rivets in his differential diagnosis. Dr. M. still held to his first opinion—foreign body, and operation necessary; but Dr. Dunn, at present my good friend and partner, deserted my knife, at least he was "neutral." Dr. Gadberry asked Drs. McC. and D. to see the patient that night and examine him again. They did so. After a careful observation of the patient, when asleep, they again candidly favored an operation.

On the morning of the 9th, after a night still worse than those I had witnessed, patient often awaking, struggling from a sense of suffocation, and getting up on his elbow to get air, he once more got on the table, and was chloroformed. I, for obvious reasons, performed laryngo-tracheotomy. As my patient breathed better under the anæsthetic, it gave me ample time to again "hasten slowly." The necessity of checking every drop of hæmorrhage before I made my final incision through parts that I expected to find as red as scarlet, dangerously vascular and giving me a torrent of blood to bail out of the trachea, rested on me in all its importance. The plexus of veins was large, and I found it impossible to push it all aside or tear it from the site of operation. I cut a part which caused me, with some other large, turgid vessels when torn, a delay that retracted from the "brilliancy" (?) of the operation. When I cut through the cartilages and mucous lining of the air-passages, the hæmorrhage was so great that it was an industrious work to keep my patient from strangling to death. The calm and efficient assistance of Dr. Cully C. Cook, who quickly passed me one clean sponge-mop after another, enabled me to keep my patient from dying on the table; Dr. Moore keeping the margins of the wound separated. Introducing a probe, I detected the burr in the larynx, closely applied in the angle of the alæ of the thyroid cartilage. Dr. McC., and, I believe, two other physicians, felt it through the probe as that instrument rubbed over its spines. I passed the tip of my little finger up, and coming

suddenly in contact with the extremity that has two large spines on it, the free end, when growing, was sharply pricked by them. There it stood, virtually, as the anatomy of the parts permitted, with the end of the burr that is attached to the plant, when growing, looking upward, the other end resting between the anterior extremities of the vocal cords, most firmly grasped by the false. When it is remembered that the hooklets on the ends of the spines of the burr turn towards the attached end, it will be seen how it could more easily enter the larynx, even if it touched the mucus surface in doing so. An effort to hawk it up made the hooked ends hold all the faster. I reached to get a bent probe to hook around the burr and dislodge it, and if I could, without lacerating the vocal cord too much, to bring it down through the rima. On introducing the probe the patient swallowed. Not feeling the burr where I felt it first, I ramarked, "I believe he has swallowed it." I think it was Dr. McC. who added, "the parts have assumed their natural position," which was then first observed since the accident to the patient. Neither probe nor finger could now detect it, Dr. G. and myself examining the part thoroughly. I had, evidently, displaced it when I pushed my finger so unexpectedly against its extremity, and it had fallen out of the larynx back into the pharynx, and the patient swallowed it. To remove it in that way was the best surgery, though I confess I desired to hold it in my forceps, having gotten it the other way. I much regretted the patient swallowing it, for apparent reasons. My patient was annoyed at its having gone into his stomach, into which it readily slipped, being now coated with blood and mucus. He said during his subsequent hard pull for life, that he felt it "lodged on top of his left kidney!"

I dressed the wound with adhesive strips that I could hastily tear off, if demanded, and had the boy put to bed. The first eighteen hours after the operation I was afraid I would lose him at any moment. Once I removed the dressing to give him air, and sat for several hours wiping away mucus and blood from the wound, that threatened to strangle him. He

then began to gradually improve. Finally the wound healed by granulation, and William is to-day a "well and hearty" boy. His health is better than before his misfortune with the burr. I shall always believe that had he been of a more excitable temperament he would have died before surgical intervention.

Synopsis of symptoms, as given by Gross: "The moment a foreign substance, however small, touches the windpipe, it excites severe distress and *coughing*, on account of the spasmodic action which it induces in the larynx. In the intermission, the patient is fortunate if he escapes with his life. In the great majority of cases he is seized with a feeling of annihilation, gasps, looks wildly around, *coughs violently*, and, perhaps, loses his consciousness; livid countenance, eyes protrude from their sockets, heart beats tumultuously, body contorted in every possible manner, froth or froth and blood issue from the mouth and nose. The duration of first paroxysm varies from a few seconds to several minutes; or, *as in severe cases, as when the foreign body is arrested in the larynx, even several hours*; then he regains consciousness, power of speech, voice generally remaining. Occasionally there is almost an entire absence of symptoms, as in Loui's case the patient, after the first few minutes, did not experience any bad symptoms for an entire year. At the end of that time he coughed up a cherry-stone, followed by such copious expectoration as to destroy him in three days. *Cough* usually spasmodic, sudden, short, uncontrollable. May be croupy; so it is difficult to determine the presence of a foreign body. * * * *Voice* variably affected; generally it is so natural as to render it difficult to detect any change. May be croupy, hoarse and low, or sharp and sibilant, a mere whisper, or entirely extinct. These alterations may occur immediately after the accident, or not until the foreign body has set up irritation in the vocal cords. After the paroxysm, *pain* is generally very slight until resulting inflammation has produced serious structural lesions, liable to be aggravated by coughing or the slightest change in the situation of the foreign body. The patient has hardly escaped from the

immediate effects of the accident before his life is endangered by inflammation, which, if not promptly relieved, may prove fatal. One of the most remarkable cirumstances after this accident is, that while the patient can freely inspire, he finds it almost impossible to expire."

Erichsen says of the immediate symptoms: "*In all cases* there is a feeling of intense suffocation, with great difficulty of breathing, and violent fits of spasmodic coughing. In some cases immediate death may ensue at this period. * * * *All these symptoms are most severe if the foreign body remains in the larynx.* * * * *The symptoms during this period are much less severe when the foreign body is in the trachea or bronchi.*"

Of twelve cases given in his tabulation in which the foreign body remained in between forty-eight hours and one week, five recovered and seven died.

Druitt: "When a foreign substance has passed the *rima glottidis* and has got into the trachea, it will produce different symptoms, according to different circumstances. In the first place, it may be impacted in the ventricles of the larynx or the upper part of the trachea, in which case it will *probably produce spasmodic cough and difficulty of breathing.* 2d. It may be loose in the trachea; *violent cough* and sense of suffocation produced by its first introduction generally subside for a time; now and then *violent fits* of coughing and spasmodic breathing. 3d. Foreign body may have passed into one of the bronchi, where, perhaps, it may be detected by causing a whistling or murmuring sound. * * * Sometimes it is difficult to distinguish the symptoms produced by a foreign body in the larynx or trachea from those of croup or laryngitis. Expiration is generally more difficult than inspiration, whereas it is usually the reverse in croup."

Holmes—"Treatise on Injuries of the Neck," by Durham: "The symptoms which immediately attend the entrance of a foreign body into the air-passage *are violent spasmodic cough,* etc. * * * It occasionally happens that a foreign body,

after having been lodged in the trachea for a variable period, is propelled, in a paroxysm of coughing, *into the chink of the glottis, where it may become impacted and speedily destroy life.* * * * When the foreign substance *is in the cavity of the larynx*, and its size is insufficient to prevent the passage of air, *instant death does not always take place*, the symptoms depending on the nature of the substance. *If sharp or angular, the symptoms are usually very severe;* * * * *violent and very frequent attacks of spasmodic cough occur;* respiration croupy; voice hoarse or altogether lost. *Seldom any long-continued intermissions of symptoms*, unless relief is afforded by the expulsion of the foreign body during coughing or by operation death very soon ensues. *If the foreign body is small, smooth or round, no very severe symptoms may arise for some time.* * * * The foreign body occasionally passes through the chink of the glottis, and becomes fixed *in the lower part of the larynx* or in the trachea immediately below the cricoid cartilage. *In this case comparatively little distress is experienced* after the *first symptoms have passed off.* * * * Occasionally entire absence of cough. (See 'Med. Chir. Trans.,' vol. xxiii., p. 99—Mr. Hawkins. Also, 'Med. Gazette,' vol. xviii., p. 952—Mr. Bullock.) * * * * *If the foreign body is in the larynx, the symptoms are often so urgent as to admit of no delay, or so severe as to render the patient unmanageable.* * * * Dyspnœa is especially marked during expiration, the reverse of this is observed in laryngitis.

As a general conclusion, it may be definitely and decidedly asserted that life is in peril so long as a foreign body of appreciable size is retained in any part of the respiratory tract.

It will be seen, when the location of the foreign body is remembered and the difficulty of "feeling about" in such parts, that my probe had felt beyond and on either side of the foreign body, sweeping about quickly, as I thought it would strike such an obstacle readily.

CASE I.—Foreign body, truly, "smooth as glass," and shaped so as to make its passage along the trachea with ease and facil-

ity; a body calculated to do as little harm as any substance well could in its location; yet, being *movable*, threatening the patient's life every moment by producing spasm of the glottis, as it thumped up against the soft parts of the larynx during the spasmodic coughing.

CASE II.—Foreign body, the ugliest and roughest one could imagine, with its great size and stiff, numerous spines, say noli me taugere to the four points of the compass; yet producing little noticeable trouble (save on close scrutiny) for many hours, being *immovable* in its site in the larynx.

CASE I.—All the distressing symptoms; threatening life from the intromission of the foreign body to its removal, lasted probably less than eighteen hours.

CASE II.—That porcupine-like body remaining in rude proximity and partial wounding contact with the most delicately organized structures for at least seventy-eight hours, the patient walking about, eating, drinking, whispering, making little or no complaint; seemingly a boy *too lazy to hawk and spit quickly.*

And then, of all the symptoms or lack of symptoms, could anything afford more interest than the presence of a cockle-burr in the human larynx, and that person *without cough?*

Did I do wrong delaying the operation, under the circumstances?

My most useful lesson from my most distinguished master, Professor Gross; ten years contact with as many hundred medical men, some of whom "spared not him" who stood between them and *all* the light; an acquaintance with the whims that govern a portion of every community in estimating the value of things of which they know nothing, taught me caution.

The manliness, candor and ethical course of the gentlemen who caused twenty-four hour's delay in the operation, are remembered with pleasure. Such frankness disarmed suspicion, making her blush to find herself abroad. If the patient died under the knife, as has chanced the most skillful operators, one would not hear, "I told you so," from such a source. If the

case was conducted successfully—the patient saved—there would be no cowardly, contemptible outlawry against the ethics of the Profession, by creeping about in the dark, discussing with non-professional persons the manner of performing the operation, hinting, possibly, that it was unnecessary and experimental.

ART. II.—PHLEGMASIA DOLENS. By CHARLES E. HAGNER, M. D., of Washington, D. C. [Read before the Clinico-Pathological Society.]

Monday, July 25th, 1870, I was called to see L. C., colored, aged thirty years, who had been delivered by a midwife of a healthy male child Friday, 22d instant. Found her with a pulse of 140, respiration 34 per minute, excited but not delirious, with extreme headache, abdomen exquisitely tender upon the slightest pressure, and complaining more of great pain in the right leg than of any other symptoms. Upon examination, the limb was seen to be enormously swollen from the pelvis to the toes; and upon feeling for the femoral vein, it was found hard and distended like a piece of heavy cord under the finger. The pain in the limb seemed unbearable, causing the patient to writhe and groan most piteously; her breasts were painful, but contained no milk; lochia almost normal, only slightly scanty; bowels very constipated; had passed no urine for forty-eight hours.

I could get no history of the labor at the time except from the husband, who said it was her first child, and that she had had a very hard time, but he knew none of the particulars. Ordered her at once an ounce of castor oil, and warm water dressing to the limb, with hot poultices to the abdomen, and returned to my office to procure a catheter, when I was called off, and did not see the patient for five hours. When the catheter was introduced only a few drops of urine came away, which was very ammoniacal; the oil had acted freely, but the head-

ache and fullness had not passed off; in fact, were more severe, if anything; the poultices could not be borne, as they caused such pain. Finding no urine of any quantity in the bladder, I began to fear uræmia from suppression, in addition to the phlegmasia and metritis, which were already present. I was forced to this opinion from the increase of the headache and the urinous odor that began to come from the patient's skin. Ordered for her props to keep the bedclothes off the abdomen and leg, poultices made light of flax-seed meal to abdomen, which were borne tolerably well, and a diuretic mixture of—

Tinct. Scillæ, ℥i.;
Tinct. Digitalis, ℥i.;
Potass. Acetatis, ℥ij.;
Spir. Ætheris Nit., ℥j.;
Aquæ, ℥iij.

Dose—Dessertspoonful every two hours. Also a solution of chlorate of potash every alternate hour as a drink.

Saw the case again the next day (26th) at 10½ A. M., when, upon passing the catheter, there was still no urine. The patient was beginning to be slightly comatose, and the smell of urine from the skin was very strong. Ordered diuretic mixture still to be continued, for I saw that if it did not act on the kidneys, still at least it helped the skin, which was acting vicariously to a great degree; also warm applications over kidneys, and a mixture of—

Sodæ Sulphite, ℥ij.;
Aquæ, ℥i.;
Glycerinæ, ℥iij.

Dose—Tablespoonful every alternate hour with diuretic mixture.

This I gave, with the antiseptic property of the sulphite in view; the glycerine relieved the great dryness of the mouth and tongue, and was nutritious also without being stimulating. While writing for this the patient had a severe convulsion, which lasted several minutes; so I also sent for some ether, and waited its arrival. She had one other convulsion before the

messenger returned. She would fall into a comatose state between them. Gave her a dose of the medicine, and upon another convulsion coming on, put her under the influence of the ether (Squibb's), which cut the paroxysm short in a few minutes; kept her partially under it one hour, and upon leaving, told her sister to let her sniff a little from a handkerchief if there was a return of the convulsions, and to continue the diuretic mixture with the last ordered every alternate hour.

Saw the patient again that afternoon at 2 o'clock; had had only one other convulsion since last visit, at 12 o'clock; seemed more comfortable, not breathing so heavily, and could be roused to take anything, but would not speak. I will here state that the limb was covered with large blebs, being still enormously swollen, and was constantly kept covered with warm-water dressing and oil silk; made several incisions in it to relieve tension, from which serum exuded that smelt urinous; same treatment continued. Patient seen again at 6 P. M.; brain symptoms somewhat better; pulse not so full or rapid, come down ten beats in the minute, to 130; passed catheter and drew off about a teacup half full of urine; this was the first for *three days and a half;* had no return of convulsions; skin not acting so freely; same treatment continued with steam bath.

The next day (27th), upon entering the patient's room found that a most marked change had taken place in the atmosphere; all the urinous odor had left, and the woman was conscious, answering questions; still complained of great pain in the leg and abdomen. Passed catheter, and, to my great satisfaction, drew off two bowlsful of urine—in all, a quart. From this time she begun to improve; gave her a pill of one grain of quinine and one-fourth of a grain of opium every three hours, as she still had great tenderness upon touching the abdomen; and I now considered the opium not contraindicated; still kept up the diuretic and sulphite of soda mixtures, but not given so often; ordered also beef-tea.

Upon my evening visit, found that she had had a refreshing sleep, and had passed some urine naturally; abdomen and limb

still very painful. From this date I continued to see the patient daily for a week, her condition still improving; the skin coming off the right leg, like the finger of a glove, in large masses that had to be removed with a knife, as they would catch in the bedclothes and cause great pain by pulling on that which was not ready to separate. The tenderness in the abdomen and the swelling left their respective seats gradually. The treatment was discontinued, as the indications for its use seemed to be removed; opium and quinine being kept up until all tenderness in the abdomen had subsided, when the patient was put on tonics and generous diet.

About a week after I was again sent for, when I found her with a large abscess on the external aspect of the right knee-joint, which I opened and treated with poultices, as there were signs of erysipelatous inflammation extending up and down the limb over a much larger space than the usual attending redness of an abscess. I was afraid erysipelas might supervene, and ordered her tinct. ferri chloridi and potass. chlorat. in large doses, and to continue the sulphite mixture, which she had not even taken for some time. After she had recovered from this attack and began to get her strength the secretion of milk returned, after being absent nearly three weeks; her child nursed and thrived until about the last of September, when it died of cholera-infantum.

I present with this paper some specimens of skin that came from the affected part, and will here state that the nails of the fingers seemed to die during the disease, and upon recovery there was a distinct line of demarcation between the lunula and the white dead portion, which line continued to ascend as the nail grew, until it reached the portion cleaned by the penknife.

Such, Mr. President and gentlemen, is the history of this case, which, to appreciate, had to be seen. During the course of treatment I took several professional friends to see the case, among whom were Drs. King, Smith, and D. R. Hagner; the latter saw the patient the day I gave the ether for the convul-

sions, and agreed with me in the propriety of using it. Among the points of interest in this case to me, was the fact that the lochiæ were present, although there was such violent constitutional disturbance; but upon studying the subject, I find this is spoken of as a remarkable fact in this disease by others. In this case the right leg was the one affected—usually it is the left; several reasons are given in the books why this should be the case, but none of them are founded upon any anatomical principle; they are such as "because women generally lie on the left side," and "because the occiput of the fœtus is generally directed to the left." What was the position or presentation in this case I could not ascertain, as before stated. Time and space forbid entering into the etiology and pathology of this disease and the theories in regard to them. These I will only state differ in the ultimate and proximate cause of the disease, some believing that it begins in the uterus, others in the iliac and femoral veins. In this case I consider it began in the uterine branches of the hypogastric veins, because the metritis began before the limb became affected. For the abscess that followed, I accept Virchow's theory of embolism.

These points I hope may be brought out by discussion, as well as the complications of the kidneys. Concerning the treatment, it was of the expectant plan; the sulphite of soda and potass. chloratis certainly gave relief to the uræmic symptoms; these, with warm applications over the kidneys and baths of steam, were the basis of treatment.

ART. III.—A CURIOUS AND INTERESTING CASE OF MALPOSITION OF THE ABDOMINAL AND THORACIC VISCERA.

By B. W. ALLEN, M. D., of Wheeling, W. Va.

The following singular case of congenital absence of at least two-thirds of the diaphragm, nearly the entire left lung, the greater portion of the right lung, with transposition of the viscera, and anomalous distribution of the aorta and pulmonary

artery, occurred in the practice of Dr. John Cook, of Bridgeport, Belmont county, Ohio:

The history of the case, as given by Dr. Cook, is, that he was called upon on the morning of December 13th, 1872, to attend a colored woman in labor; that the child was born about 2 o'clock P. M., after a labor of about twelve hours. After the expulsion of the child, it made several violent efforts to breathe, but not succeediag, the Doctor used the means ordinarily resorted to, but failing in these, he tried to inflate the child's lungs by breathing forcibly into its mouth through a cloth placed over it. His efforts were continued for at least ten minutes, when he was obliged to turn his attention to the mother, who had commenced flooding; when he again turned to the child it was dead. His curiosity, however, had been excited during his manipulations of the child, by feeling the pulsations of the heart on the right side just above the nipple, and he requested permission to make a post-mortem examination, which was readily granted.

The following day, assisted by Dr. Fisher, also of Bridgeport, he made the examination hurriedly, and the child was buried.

In speaking of the case to me a day or two afterward, and the singular relations of the different organs, I suggested a reëxamination, with a view of reporting the case "in extenso," as I had never heard or read of a similar one. The result was, the body was disinterred, with the consent of the father, and brought to this city, where all the necessary dissection was carefully done in presence of Drs. Cook and Fisher, of Bridgeport, and Dr. Junkin, of Belair, Drs. Baird, Bates, Sr., Bates, Jr., Robert and James Cummins, Hildreth, Jesson, and two or three young gentlemen, medical students of Wheeling.

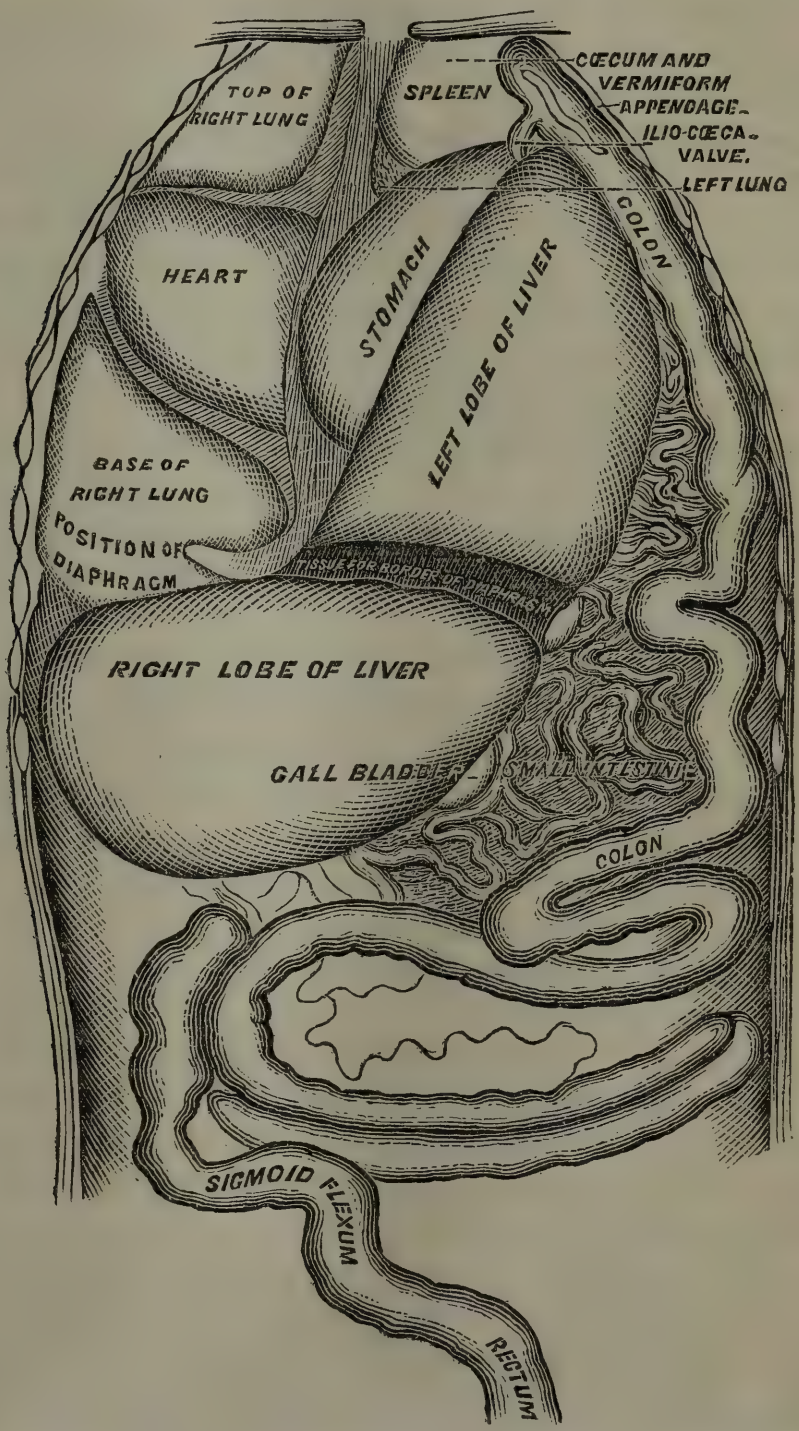
Autopsy.—The body was that of a fully developed male child, a bright mulatto, well formed, twenty-two inches in length, and weighing, by estimation, ten pounds. There was a little more fullness on the right side of the chest than on the left, but not enough to attract attention unless especially directed to it. The body had been opened by a vertical incis-

ion, met by horizontal incisions along the clavicles and lower margin of the ribs, the flaps turned back, and the sternum and costal cartilages removed, thus exposing the contents of the thorax. The vertical incision was afterwards extended to the symphysis pubis, when "confusion worse confounded" presented itself to the anatomical eye.

In order to facilitate description, I have sent a diagram, and with its aid will proceed to describe, as well as I can, the position of the different viscera as they came most prominently into view, and in the order in which they were examined.

As will be seen by reference to the said drawing, the left thorax and abdomen formed one continuous cavity. On the right side there was a rudimental diaphragm of a crescentic shape; having the usual attachments on that side, but terminating in a *concave border* which curved backwards from the ensiform cartilage to the side of the vertebral column. The "central tendon" and entire left half of the muscle were wanting. Extending upward from this concave border to the top of the chest were the membranes, serous and fibrous, with the heart and pericardium, isolating the right lung, such as it was, from the rest of the viscera. Most prominent in the large cavity was the *liver*, with its right extremity lying, as usual, in the hypochondrium. Passing from this region into the epigastrium, it began rapidly to ascend toward the left shoulder, and terminated nearly as high as the second rib. The left lobe, which was larger than usual, had its surfaces *anterior* and *posterior*, its borders (posterior) superior and to the right, (anterior) inferior and to the left. The right lobe was in the ordinary position, and hence, as will be understood by reference to the figure, this organ was partially twisted near its middle. Running nearly horizontally across it, and near its middle, upon its upper or anterior surface, was a deep groove or fissure in which the anterior corner of the rudimentary diaphragm rested, and to which it was attached by a fold of serous membrane, the suspensory ligament. This groove corresponded in

position and direction with the longitudinal fissure of the inferior surface. The gall bladder occupied its usual position on the under surface, but was near the middle line of the body and



to the left of it, in the epigastrium. In other respects the liver presented nothing peculiar. Just *above* and to the *right* of the posterior (superior) border of the left lobe of the liver, and partially overlapped by it, was the *stomach* lying to the left of the vertebral column. Its greater curvature was toward the right shoulder and slightly forward. Its lesser curvature was toward the left lumbar region and slightly backward, and was hidden from view by the border of the liver. The *cardiac orifice* was in its normal position, or nearly so, as regards the body, but the œsophagus opened *upward* into it after passing down behind the large end of the stomach, and then inclining to the left, turning forward and upward to reach it. The *pyloric orifice* was to the left and above the cardiac, on a line with the lower border of the second rib. The diagram explains better than words the position of the stomach. By this it may be seen that the posterior surface has become anterior, the upper or lesser curvature has become inferior, and its right or pyloric end has been carried over to the left and upward. In other words, the stomach was as completely *topsy-turvy* as could well be imagined. From the pylorus, the *duodenum* descended in a slightly tortuous course, gradually approaching the vertebral column, and at the second lumbar vertebra it changed its direction, running upward in convolutions, as the *small intestines*, which were lying chiefly between the liver and colon, to the left of the middle line of the body and in front of the duodenum. After ascending in this manner to the level of the second rib the small intestine turned abruptly to the left and entered the colon. The *cœcum* was seen lying inverted, with its blind extremity at the summit and on the outer wall of the left thoracic cavity, having its vermiform appendage depending from its anterior surface. Descending vertically, it (the cœcum) became the colon, having the ilio-cœcal valve opening into it from the right. The *colon* descended close along the walls of the chest on the left side, until it reached the abdominal portion of the cavity, when it formed several large convolutions, the last of which, the *sigmoid flex-*

ure, rested in the right iliac region; then passing over the right sacro-iliac articulation, it became the rectum. The *spleen* was lying at the apex of the cavity, partially hidden by the clavicle. It was separated on the outer side from the ribs by the cæcum, and on the inner side from the vertebral column, on the side of which it would otherwise have rested, by a rudimentary left lung, the lower extremity of which was seen below and to the inner side of it. The hilus of the spleen was turned backward and downward, and attached to it by a duplication of serous membrane was the pancreas, which descended along the left side of the vertebral column, behind the stomach and liver to join at an acute angle, the duodenum, which was on its outer side. The *left lung*, as before stated, was rudimentary, and was lying compressed between the spleen and vertebral column at the top of the cavity. In length, it was from an inch and a quarter to an inch and a half; in breadth, about three-fourths of an inch, and would weigh probably about one drachm. It was separated into two little lobes by a fissure running across it horizontally. The remaining occupants of this cavity—viz., the kidneys, bladder, etc., occupied their normal positions.

To the right of the middle line of the body and above the rudimentary diaphragm, were the heart and large blood vessels, the right lung, the trachea, etc. The *heart* can best be described by again resorting to the diagram. I am informed by Dr. Cook that at the post-mortem examination made by himself, the long axis of the organ was nearly vertical; at least he is under that impression. At the second examination, however, the long axis was *across* the cavity, and from the apex it descended slightly to the base, as represented in the figure. The apex pointed to the right, a little above the right nipple. The right ventricle was in front, and the left ventricle of course directly behind it. In general structure the heart did not deviate from ordinary specimens, except that the walls and columnæ carneæ of the right ventricle were thicker and stronger, while the cavities of the left ventricle and left auricle were *smaller* than usual.

The reasons for these differences, however, will soon be apparent.

Now comes one of the most remarkable peculiarities of this remarkable subject. The *aorta* came off, as I will endeavor to carefully describe here, from the left ventricle, but *about half* its ordinary calibre. Ascending vertically about one inch, it divided into two nearly equal branches. The right branch representing the *arteria innominata*, after a course of half an inch, divided into right common carotid and right subclavian. The left branch constituted a left arteria innominata, which received on its under or left side the ductus arteriosus from the pulmonary artery, and then inclining a little to the left, it ascended about three-fourths of an inch and divided into the left common carotid and left subclavian. This was *the whole* of the aorta.

The *pulmonary artery* springing from the right ventricle in front of the aortic opening, passed horizontally to the left and backward toward the vertebral column until it cleared the base of the heart. In this part of its course it sent off a branch from its posterior surface to the right lung, and from its upper surface the ductus arteriosus, then turning directly downward it descended as, or in the place of, the aorta, through the chest and abdomen. The intercostals and visceral branches were all given off by the anomalous pulmonary artery. The vena cava superior, and inferior, were disposed of as usual; the only difference being in their lying farther to the right than they are commonly found. The *right lung* was behind the heart, slightly enlarged at its upper extremity to fit the apex of the right thoracic cavity, while its base projected forward below the heart, resting on the crescentic diaphragm, and terminating in a thin border at its (the diaphragm) concave margin. The portion behind the heart was an extremely narrow isthmus, lying in the costo-vertebral groove, and here the root of the lung was found. Two fissures at this point divided the lung into three lobes; the middle lobe was triangular in shape and about the size of an almond. In dimension the right lung was about one-fourth its usual volume.

The œsophagus descended along the middle line until near its termination, when it inclined to the left, turned forward, and then *ascended* to reach the cardiac orifice of the stomach.

The *trachea* seemed smaller than natural, and was to the right of the œsophagus. It passed *apparently* to the right lung alone. In front and a little to the right of the trachea were the large blood vessels. No vessels were seen going to the little left lung. They probably were broken or destroyed during some period of the examination.

I have described as concisely and accurately as I could this anatomical curiosity. As far as my experience and reading go, it is certainly unique.

ART. IV.—OVARIAN TUMOR OF TWENTY-FOUR YEARS' STANDING SUCCESSFULLY TREATED BY TAPPING, COMPRESS AND BANDAGE. By D. KELLER, M. D., Paris, Ky.

Miss K. R., of Bourbon county, Ky., aged forty-four, had been for twenty-four years the subject of ovarian tumor, and for more than twenty years of this time had suffered but little inconvenience beyond the excessive weight of the tumor, her general health remaining tolerably good. She had been for a long time under the care of Dr. John McMillan, of Carlisle, Ky., a man of ability and great practical experience, who had advised her (very properly, I think,) not to have the tumor interfered with so long as she suffered no serious inconvenience from it. The death of Dr. McMillan a few years ago caused her to seek advice from some other source. I was called to see her in the fall of 1868. After a careful examination, I was satisfied of the presence of an ovarian tumor, unilocular and of large size. Her general health was by no means good, and had been gradually giving away for a year or more. The abdominal cavity seemed to be filled to its utmost capacity; her breathing was difficult, and it was with great difficulty that she could occupy the recumbent posture; the action of the heart was irregu-

lar, and the secretion both from the liver and kidneys defective.

An attempt was made to improve her general health, but failing in this, and the case presenting so many unfavorable symptoms, it was determined to try tapping as a means of temporary relief. On the 30th of September about fifty pounds of fluid were removed of straw color, and the patient put upon diuretics and gentle mercurial purgatives, but in a short time the accumulation came on again, and by the 6th of May following, was as great as ever. She was tapped again, and about the same quantity of fluid removed of much darker color than the first. Compress over the entire abdominal surface and bandage were now applied and continued for six weeks. Saturated solution of chlorate of potass. in connection with gentle purgatives were given regularly during this time. The secretory action of the liver and kidneys was readily established, and she is now perfectly well.

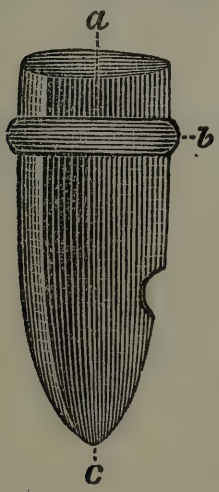
ART. V.—AN INTERESTING CASE OF WOUND OF THE BRAIN.

By C. H. MASTIN, M. D., Mobile, Ala.

John Patterson, aged thirty-three, laboring man, in good health, small stature, sanguine temperament; was sent to me from an adjoining county, with the following history: On or about the 15th of April, 1873, he was engaged in a drunken row with a man who stabbed him in the left temple with an ordinary pocket-knife; at the infliction of the wound he fell insensible, but recovered in a short time, and with the exception of pain in the temple—general headache and swelling of the left eye-lids—no unpleasant symptoms arose; at the expiration of three weeks he resumed his usual and ordinary business, "chopping wood and gathering turpentine." The wound having closed very soon after it was received, it was not suspected that any foreign body was left in the head. During the last week of August the wound suppurated and opened, when he de-

tected the fragment of the blade. During all this time his only symptoms were "dull, heavy headache, and frightful dreams at night." A physician of his county had tried to remove it with forceps, but was unable to do so.

Upon his arrival in Mobile I made an attempt to effect its removal, using strong toothed sequestrum forceps, but no force which I could apply would move it a particle. As the only hope to extract it was in an operation, I determined to cut down and place the crown of a trephine over the blade, thus removing the bone and blade at the same time. I found, however, after making a free incision down to the skull, and scraping away the pericranium, that I could work it out with a chisel, instead of cutting out a large circle of bone, which was accordingly done.



The drawing gives the exact size and shape of the blade; the letter *b* shows a strip of paper pasted around the blade, to indicate the exact point occupied by the skull, and its thickness; the letter *a* the part out of the skull; *c*, the portion of the blade from *b* to *c* which was lodged in the brain.

The point where it penetrated the skull and entered the brain is exactly as follows: Through the frontal bone on the left side, just back of the process of the frontal bone, which articulates with the superior orbitar or frontal process of the malar bone, parallel with and just above the sphenoido-frontal suture, just above the temporal fossa, and about one-eighth of an inch below the temporal ridge. There was very little trouble in removing it after the integuments were opened, which was done on the 12th of October, 1873, it having remained in the brain within three days of six months. I closed the wound of the integuments partially with pin sutures, leaving opening enough for a free drain. He suffered so little from the operation, and seemed so well after it, that he insists if he could live six months with it in his brain, he certainly could live six more, if

it is out. The logic of his reasoning is so very original that I yield to the argument and permit him to return home, with instructions to remove the pins in four or five days, and keep cold water to the wound, and avoid all excitement for a while, until perfectly well again.

ECLECTIC DEPARTMENT.

"Carpere et colligere."

ART. I.—ON A CASE OF PERICARDIAL EFFUSION, IN WHICH PARACENTESIS WAS PERFORMED. By THOMAS BARLOW, B. S. Sc., M. R. C. S. Physicians' Assistant at University College Hospital.

The following case presents several points of interest. Twice the pericardium was tapped by the aspirator, and twice the abdomen, with marked relief, and without any bad effects from the operation. The child was feverish throughout, and neither the fever nor the considerable ascites could be satisfactorily explained during life, but after death these were found to be due to tubercular peritonitis. There was a considerable amount of recent and old tubercle in the abdominal cavity; whilst only a small patch, with scattered recent gray granulations, and situated in the lower lobe of the right lung, was discovered in the chest. The visceral and parietal pericardium was enormously thickened, and yet the two surfaces were not at all united, the heart hanging free in its thickened envelope.

H. V., aged six years, was admitted into University College Hospital, February 7, 1873, under Sir William Jenner. He was afterwards under the care of Dr. Ringer. The boy's mother gave the following history: At the end of November, 1872, he complained one night of pain in the left knee. His mother states that there was neither redness nor swelling, that he was not feverish, did not sweat, and his urine was not high-

colored. The pain in the knee continued for a week, but was not so bad as to prevent his moving about. In three weeks the child seemed all right again, but fourteen days ago, *i. e.*, six weeks after the onset of the knee trouble, the mother noticed that he was losing flesh, that his breath was short, his abdomen increasing in size, and that there was slight puffiness below the eyes. During the last week the child had wheezed and coughed, and his urine had contained a red deposit. Previous history: Never had scarlet fever, nor rheumatism, so far as mother knows.

State on Admission.—The boy walked into the ward without showing any distress. When he sits up in bed he raises his shoulders and bends his head forwards. When he lies down he lies on the left side; says he has no pain. He has an occasional short, catching cough. No expectoration. A little wheezing is audible close to the bed, and there is slight dilatation of the alæ nasi. Pulse, 152; respiration, 40; temperature 101°·6; skin dry; tongue very red. He is very pale; skin transparent. Is slightly puffy beneath the eyes.

Chest shows rickety enlargement of the ends of the ribs at junction of the cartilages. Elevation in excess. There is recession of intercostal spaces in both inframammary and lower axillary regions. A little œdema of chest walls. Rhoncal fremitus to be felt over both fronts. There is some bulging in the cardiac region. Apex beat can not be seen nor felt. Absolute cardiac dullness begins in second space; its right margin extends to ¾ inch to the right of sternum. Double grating friction is heard over the sternum, and ½ inch to the right of the sternum, from the junction of the xiphoid to the junction of the third costal cartilages; loudest at the junction of the xiphoid. Neither heart sounds nor friction can be heard at or below the nipple. Right front resonant. Both backs a little deficient at bases. Vocal fremitus to be felt down to extreme bases. Pectoriloquy over both backs. Sibilant and subcrepitant râles over whole front and back.

Abdomen.—There is a small umbilical protrusion, which his

mother affirms has come on during the last week. Flanks bulged, but tympanitic. There is œdema of the abdominal walls. No œdema of ankles.

Urine scanty; acid; specific gravity 1034; large deposit of lithates; no albumen, no sugar.

One week after admission the boy was seen by Sir William Jenner, who gave the following note: There is some fluid in the peritoneal cavity. Liver dullness begins at fifth space. Lower border sharp and well defined—can be felt half way between ensiform cartilage and umbilicus, and two inches below the margin of the thorax in the nipple line. The cardiac dullness now extends to within one finger's breadth of the right nipple. There is relative dullness from the junction of the first costal cartilage with the sternum, nearly as far as the angle of the left scapula. Friction heard as high as the second space. No heart sound to be heard in the position of the apex, but very obscure friction. Rhonchus as before; the boy expectorates a little aërated mucus. During the remainder of February and March the boy's physical signs changed little. The friction became almost inaudible, except at the ensiform cartilage, where it was very distant. Bronchitis became more pronounced, gurgling râles being heard down both backs. The ascites was unaltered. His dyspnœa became more decided, so that he was always obliged to be propped up. The jugulars became distended, although they did not fill from below.

His temperature during February and March was about 90° in the morning and 100° to 101° in the evening. He had emaciated considerably. There was no albumen in the urine, except on one day a trace; the quantity of urine in twenty-four hours was about 10 oz. His cardiac dullness (absolute) was now bounded by a line taken from a point $1\frac{1}{4}$ inches to the left of the right nipple, up to the junction of the second right costal cartilage with the sternum, thence to a point $\frac{3}{4}$ inch to the left of the left nipple.

When patient leans forward the apex can be felt very obscurely in the nipple line in the fifth space; can not be felt

when he leans back. There is still a little obscure friction at the ensiform cartilage. The first sound just audible in position of apex, but exceedingly distant.

Dr. Ringer, who now had charge of the case, being of opinion that there was no reason to expect that anything would cause the absorption of the fluid, considered that paracentesis of the pericardium was the right thing to be done. This was performed by Mr. Christopher Heath, on the 18th of April, Dr. Anstie being present, as well as Dr. Ringer.

The skin was punctured by the smallest aspirator trocar, 1 inch below and ¾ inch inside the left nipple. The trocar was pushed up and out. It entered the pericardium above the fourth rib; 3¾ oz. of fluid were withdrawn, and then it ceased to flow; the trocar was pulled out, and the point where it had been introduced was covered with collodion. The fluid was slightly turbid, brownish in color; specific gravity 1025; showed nothing under the microscope except a few blood corpuscles and large epithelium scales, and coägulated *en masse* on boiling. There were no signs of collapse during the operation; the pulse was unaffected. Although the quantity of fluid removed was so small, the symptoms were decidedly relieved. He lay with his head on the pillow, which he had been unable to do for weeks, and his respirations were reduced from 56 to 48 in the minute. With respect to physical signs: immediately after the operation there seemed a little improvement in the note under the left clavicle, but when examined later in the evening by Dr. Ringer, not a finger-breadth's difference in dullness could be detected in any direction. The apex beat was certainly more distinct, being felt in the nipple line 1 inch below the nipple; also ¾ inch outside and below the nipple.

Next day a little superficial rhonchus was heard, along with gurgling and subcrepitant rhonchus over the left front. It simulated pleuritic friction, but altered slightly on coughing. From the time of his entering to that of leaving the hospital there was no sign of effusion into the pleuræ.

The boy's improvement did not last more than two or three

days, and on the 26th of April it was decided to do paracentesis pericardii again. It seemed probable that the small quantity of fluid removed on the first operation was due to the trocar needle having been introduced too high and directed upwards. Mr. Heath, therefore, on this occasion punctured directly through the skin into the pericardium at the upper border of the fifth rib instead of the fourth. The canula was pushed in two inches deep; 6 ounces of reddish-brown fluid were withdrawn; specific gravity 1024, neutral; coägulated *en masse* on boiling.

After the operation the resonance was decidedly improved on the right of the sternum. The position of the heart's apex was unchanged, but it was felt more distinctly both in the nipple line and to the left of the nipple.

The boy's symptoms were again relieved. He was able to lie down, and slept that evening. There was less jugular pulsation; the pulse and respirations did not change; they averaged about 150 to 50 respectively.

His temperature in the evening now ranged from 101° to 103°; in the morning from 100° to 101°.

In two days after the operation the cardiac dullness was as great as before; and now the abdomen, which had hitherto been excessively distended but had always been resonant in the flanks, became quite suddenly dull throughout, and so prominent in the umbilical region that it seemed likely to burst if not tapped. Now also there was considerable œdema of the legs and thighs.

Paracentesis abdominis was performed by Mr. Heath on the 2d of May, and 35 ounces of clear, slightly green fluid withdrawn, which coägulated spontaneously after standing a few minutes. Five days after this a decided diminution in cardiac dullness was noticed. The absolute dullness no longer extended beyond the right margin of the sternum, but was not otherwise affected.

The apex beat, however, was felt for a distance of an inch inwards from the nipple line in the fifth space, and well marked;

a rubbing sound was to be heard both below the nipple and at the ensiform cartilage.

The lung signs remained as before. The ascites soon reäccumulated, and the tricuspid regurgitation became more marked. Not only in the jugulars, but also in the veins on the back of the hand, pulsation of respiratory rhythm was to be seen; and on one occasion Sir William Jenner believed there was a finer pulsation to be seen in the veins which corresponded with the heart's beats.

The boy was passing at this time not more than 12 ounces of urine in twenty-four hours. He now began to get paroxysmal attacks of dyspnœa, during which he became quite purple; and the ascites having reäccumulated, paracentesis abdominis was repeated.

On May 23d 36 ounces were withdrawn, of the same character as before. This relieved his dyspnœa considerably. His temperature at this time was lower than it had been before; namely, 101° in the evening, and 99.6° in the morning. On one occasion the morning and evening temperature was 97.8°.

On the 2d of June the boy's mother, being afraid of his dying in the hospital, took him out. I saw him at his home two or three times a week until he died. The general œdema increased immensely. The right thigh, in spite of punctures, sloughed in two places (which were not the seat of punctures). One of these sloughs separated down quite close to the bone.

The boy died on the 3d of July; *i. e.*, seven months after the commencement of his illness.

Post-mortem Examination.—The pericardium contained half a pint of straw-colored fluid. The parietal and visceral layers were covered with lymph $\frac{1}{4}$ inch thick. This lymph posteriorly presented quite a honey-combed appearance. Heart substance normal to naked eye inspection. Orifices normal except the tricuspid, which was dilated. There was about an ounce of fluid in the right pleura. In the upper part of the lower lobe of the right lung a mass of racemose tubercle, becoming cheesy, but not softened; in the lower part, gray granulations diffused

throughout. No cavities. The upper lobe healthy. No granulations on the pleura. Bronchi full of mucus; walls injected. Left lung was pushed back, but not collapsed, and was to naked eye apparently healthy. No fluid in the left pleura. Mediastinal glands enlarged and matted together, firm and spotted on section, like those commonly described as tuberculous glands. Abdominal cavity showed abundant gray granulations in the mesentery and on the parietal peritoneum. Liver partly adherent, markedly nutmeg. A large blood cyst composed of semi-decolorized clot was seen betwcen the liver and the stomach. No explanation of this could be offered, except that it occurred on one or other of the occasions when paracentesis of the abdomen was performed. Spleen healthy. Kidneys healthy with the exception of two little tuberculous (?) spots just under the capsule. No ulceration of intestines, and nothing abnormal about mesenteric glands, except that a few were soft and swollen. Permission not granted to open the head.—*London Practitioner.*

NOTE.—As all cases of pericarditis with effusion are interesting, and more particularly when, in connection with them, paracentesis has been performed, the following description of a case reported from memory and without notes is herewith appended. In the Autumn (about October) of 1871 I was summoned by telegram to visit Colonel ——, at Danville, Ky.; an inland town, a little over one hundred miles from Louisville. Reaching there next day, I was met by Drs. Tucker and R. W. Dunlap, and asked to see the patient under their charge. This patient I found to be a gentleman about sixty years of age, who had been at times a hard physical worker, but who, for many years wealthy and not compelled to labor unduly, had taken fair care of himself, and was reasonably well preserved. His physicians stated that he had complained of severe ailments during the past year, and that these, under treatment, had readily yielded. In the past few months, however, his sufferings demanding close attention, it was found that he had

acute Bright's disease; the urine examined a few days previously showing a large amount of albumen under the heat and nitric acid test. He had been confined to the house for some weeks, and more recently was unable to leave his chamber.

On visiting the patient, he was found propped up by pillows in a large chair, with his feet in the lap of one of his family, while another member was briskly fanning him; the day being quite cold and the air of the chamber decidedly cool. He manifested severe orthopnœa; was unable to lie down, and suffered paroxysmally from a sensation of suffocation. His skin was cool and damp, with evidences of decided prostration. His pulse was small and frequent, about 110. His respiration frequent and shallow, with occasionally a deep inspiration followed by sighing. His tongue was pale and slightly coated, with its tissue relaxed or flaccid; the margins of the tongue being dentated from pressure upon the surrounding teeth. His appetite was very insufficient and capricious, and his digestion bad. He had slight fever at night, with cough and light sweats.

The abdomen presented nothing of interest. There was no ascites, and no evidences of visceral change or enlargement. After noting these general facts, his chest was closely examined.

On the right there was no loss of resonance, but, on the contrary, this was slightly increased. The respiratory murmur here was also increased. At the base of the left lung the respiratory murmur was very feeble, and there was some loss of resonance under percussion. There was no bulging of the lower intercostal spaces, and change of position from the semiprone to the sitting posture did not produce any discoverable changes in the auscultatory phenomena. The apex of the left lung was slightly dull under percussion, and the respiratory murmur deficient in degree, with slight mucous râles. There being nothing of special interest so far developed, the cardiac space was closely examined. The area of dullness extended from the second to the seventh rib vertically, and from the left nipple to a line two inches to the right of the sternum.

The whole of this space was somewhat protuberant and presented a slightly undulatory movement under the influence of the heart's action. Palpation detected very decided fremitus. On applying the ear directly over the upper and lower valves, it was impossible to recognize either the first or second sounds of the heart; these were entirely masked. A loud, diffused friction murmur was heard from the third to the fifth ribs. The apex beat of the heart was not discoverable.

The diagnosis here was manifest; the patient was struggling for life under all the sufferings and physical horrors of pericardial dropsy.

During the afternoon his condition was fully explained to him, and he was made to understand that though tapping of the pericardium might not save his life, it would almost certainly prolong it. All of the physicians in attendance impressed upon him what was their duty in the case, and that if he were willing to be operated upon, it would be criminal on their part not to operate immediately.* The patient, with a bravery and fortitude unsurpassed, decided immediately, and that the operation should be performed at once. As it was injudicious to use the bistoury and trocar, when the aspirateur of Dieulafoy was entirely efficient, it was determined to telegraph to Louisville for this instrument. It arrived next day.

While awaiting its arrival, the urine was repeatedly examined, but no albumen was discovered, nor were there any tube casts observed. Whether the pericarditis had been primary or secondary in character was therefore not demonstrated.

On the afternoon of the second day, it was decided that the operation should then be performed. The physicians of Danville were invited to be present, and the following gentlemen were

* The physician who evades this operation under such circumstances, should certainly be prosecuted for malpractice; and the Medical Profession should most unquestionably, visit with unsparing condemnation any of their number who, at such a time, makes the comfort or safety of his patient subordinate to his feelings or reputation. Such a man deserves the ridicule and execration of every respectable physician, and, with this, expulsion from every office or position of honor or trust.—E. S. G.

kindly in attendance; viz., Drs. R. W. Dunlap, B. C. Tucker, J. D. Jackson, George T. Erwin, W. Pawling, and A. R. McKee. With these, there were some of the immediate friends of the family in the room. The patient being in a large chair, was so placed near one of the front windows of the chamber that a strong light was secured. No anæsthetics, local or general, were used. All being in readiness, and the upper angle of the fourth interspace near the sternum (the old point of election) being selected as the point at which the trocar was to be inserted, the needle or trocar of the aspirateur (with the aspirateur attached) was carefully and skillfully introduced by Dr. B. C. Tucker, and passed with care into the pericardium; the direction of the needle being horizontally backwards, with a slight inclination to the left of the patient. The piston of the syringe then being drawn backward, the glass cylinder of the aspirateur was seen to be full of a clear, straw-colored liquid. There were withdrawn about two and a half or three ounces of fluid, when it was found impracticable to obtain any more. The syringe was then detached from the nozzle, and this could be seen to plainly describe an undulatory line, as at each systole of the heart the right ventricle was brought into contact with it.

The error in this operation was the same as that to be noticed in the operation of Mr. Heath; the needle was directed in a line too nearly horizontal, so that as the fluid in the pericardium sank beneath the line of the inserted nozzle, it was impossible for the syringe to be any longer effective.

It is respectively suggested that where the aspirateur is used in tapping the pericardium, that the nozzle should always be inserted in the extreme upper portion of the fifth intercostal space, at a point one inch from the left border of the sternum, and that the line of direction should be inwards, upwards and backwards. In this manner the aspirateur will be effective as long as any fluid remains in the pericardium.

The effect of the operation was very marked; the relief produced very great. The patient was placed in bed; for the first time in many weeks, he was able to lie prone; using one small

pillow only. He was so much relieved that he was sure of recovery. He ate a little; and slept quietly for several hours. At about 1 A. M. he awoke with some pain, which was easily relieved by a little morphia hypodermically injected. He was left next morning by me at 6 A. M. resting quietly.

Dr. Tucker informed me that the pericardial sac soon commenced refilling. The urine became highly albuminous. Fever returned. He became much prostrated, and sank several days after the operation.

Whatever may have been the nature of the pericarditis in this case, whether primary or secondary, I feel satisfied that the life of the patient would have been materially prolonged and made more endurable had paracentesis been sooner performed, and had the operation been so performed as to have removed the whole of the fluid from the pericardial sac. It is therefore recommended that in all cases of pericarditis with effusion, the operation be early performed; that it be performed as described; and that it be repeated as often as the fluid accumulates.

The operation is simple and easy of performance. It brings wonderful relief to the patient, and will, in many instances, rescue him from inevitable death.—E. S. GAILLARD.

ART. II.—OBSERVATIONS ON THE USE OF PANCREATIC EMULSION AND PANCREATINE, IN CONSUMPTION, MARASMUS, TABES MESENTERICA, AND OTHER WASTING DISEASES OF CHILDREN AND ADULTS. By Dr. DOBELL, Senior Physician to the Royal Hospital for Diseases of the Chest, etc., etc.

All the emulsion used at the Royal Hospital for diseases of the chest is made by Messrs. Savory & Moore, the process of manufacture being too complicated to be conveniently carried on in the dispensing department of the hospital. In this respect the Royal Hospital has enjoyed a special advantage, for when I first gave the instructions for making the emulsion to Messrs. Savory & Moore, I obtained from them the promise

that the Royal Hospital, as the birth-place of the remedy, should always be supplied at as nearly cost price as possible, so that we might be able to give our poor patients the benefit of the emulsion, without being deterred by considerations of cost. This promise has been faithfully kept; and I have great hopes that I may shortly succeed in persuading Messrs. Savory & Moore to make a similar concession to all public hospitals.

I repeat, then, regardless of what false construction my enemies may please to put upon my statements, that in justice to Messrs. Savory & Moore, I am bound to state that their Pancreatic Emulsion and Pancreatine are the only perfectly reliable preparations of Pancreatic juice I have seen up to the present time. There is no reason why some other manufacturer, with the advantages of the published formula and the present preparation for a model, should not produce a pancreatic emulsion *as good* as that of Messrs. Savory & Moore; but with all their experience in the matter, it is very improbable that any one will be able to excel them; and so long as there is no preparation *better* than theirs, I shall feel it only just and right to give them my special recommendation, as a reward, to which they are honorably entitled, for the way in which they have devoted themselves, without regard to expense, and through many difficulties, honestly to carry out my wishes and instructions for the production of a true pancreatic emulsion of solid fat, of reliable and equal strength, agreeable to the taste, capable of bearing any climate, and of keeping good for an indefinite length of time.

Having thus disposed of this matter in passing, I think it may be interesting to those who are now trying the pancreatic emulsion in the wasting diseases of children, as suggested by my article in "The London Practitioner," and to that very numerous body of medical men, at home and abroad, who have prescribed pancreatic emulsion in consumption since my papers in "Lancet," "On the Assimilation of Fat in Consumption," (1864–5), if I say a few words with regard to my own experience of the remedy since my last publication on the subject,

"Report of the Experience of Medical Men who have used Pancreatic Emulsion of Solid Fat" (1867).

Since that time I have prescribed the emulsion in all suitable cases of consumption or of wasting from defective assimilation of fat that have come under my care, both at the Royal Chest Hospital and in private practice, and I have had numerous opportunities of witnessing its effects, when prescribed by my colleagues at the hospital, and by other medical men, who have communicated to me their opinions on the subject or sought my assistance in consultation.

At the Royal Hospital alone I have prescribed the emulsion in more than 6,000 cases since its first introduction in 1863.

The general results of my thus extended experience are confirmatory of the statement of my opinion, extracted from the report already referred to, which I published in 1867.

To this I may now add, that while there are certainly a few persons who can not possibly take or assimilate the emulsion, although able to take cod-liver oil, they are but very few indeed, now that the emulsion has been made so perfect a preparation; whereas the number of persons who can take and assimilate emulsion, but not cod-liver oil, is very large. In either case—the rejection of cod oil or the rejection of emulsion—it is necessary not to be too easily persuaded by our patients to desist from prescribing the remedy.

I frequently find that patients, who assert that they can not possibly, and never could, keep down the oil, will manage to do so when informed that it is the only thing that will stay the progress of their disease, and when assisted by being instructed in the various ways in which the oil may be disguised, and its assimilation facilitated. I may here point out that the addition of a dose of pancreatine to each dose of oil will, in a large number of cases, at once get over the difficulty of keeping it down—when that difficulty is that it eructates for some time after it is taken and then is rejected, not that it comes up directly. Many persons who have long taken quantities of oil without difficulty, but with scarcely any good effect, will gain

flesh, and obtain all the advantages which assimilated cod-liver oil can give, if they add the pancreatine to their dose.

With the emulsion—patients who, after a first trial say they can not take it, will nearly always find out that they can, when it is explained to them that there is nothing but pancreatic emulsion and cod-liver oil which can really stay the progress of their wasting; and when they are assisted by being shown the best ways of taking the remedy and by having any faults in their primary digestive functions set right. The usual defect in primary digestion with such patients, is the combination of an excess of acidity with a feeble stomach, and this should be corrected by an effervescing draught of potass and soda, with citric acid, quinine and strychnia; or, where there is much flatulent distention as well as epigastric pain soon after food, by a stomachic powder of bicarbonate of soda, bicarbonate of potass, powdered ginger, and powdered calumba, to half a tumbler of water, a quarter of an hour before the meal.

At the same time it is frequently necessary to unload the bowels, and to relieve the portal system, which has often been long overloaded with cod oil olein, absorbed by the veins. It is to be remembered, as I pointed out in 1867,* that whereas olein is, in some measure at least, taken up by venous absorption; the solid fats have to pass by the lacteal route; and thus, when substituted for oil, in the form of Pancreatic Emulsion, they relieve the tax upon the choked-up venous system.

Then the period after a meal at which the emulsion is taken may be varied, to meet the differences in the rapidity with which different stomachs dispose of their contents. Many who can not keep the emulsion comfortably down when taken two hours after food, can do so if they take it from half an hour to an hour after. This particularly applies to young children. They generally manage it best within half an hour of a meal; and when their diet consists of farinaceous food and milk it is best to mix it with a portion of the food.

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* "On the True First Stage of Consumption. Lectures delivered at the Royal Hospital for Diseases of the Chest."—CHURCHILL.

With regard to menstruüm: Milk is certainly the nicest and best, where the milk agrees with the stomach and taste; but many persons have an old-standing aversion to milk, or have long ceased to be able to digest it comfortably. In such cases it is absurd to insist on emulsion being taken in milk. The best substitute, and indeed one of the best menstrua for Pancreatic Emulsion, is thin water-arrow-root. The emulsion mixes well with it, and by converting the starch into glucose, gives it a pleasant nutty sweetness. Many persons, however, prefer the emulsion mixed in water to about the consistence of new milk and then flavored with wine, especially Tokay, ginger wine, or orange wine. In whatever menstruüm it is mixed, it should not be made much thicker than new milk, and I advise a sufficient quantity of wine, brandy, rum, orange-brandy, ginger-brandy, or clove-brandy, to be added, to give it a decidedly cordial character, both to the palate and to the stomach.

One of the most important points in getting the emulsion well taken, is to have it *smoothly* mixed in the menstruüm; this is easily done by putting the emulsion first into the cup, or glass, and then adding the menstruüm little by little, and beating together with a spoon, till the whole is made of about the consistence of oil or of good cream; after which any quantity of fluid may be mixed by simple stirring, but if the emulsion is put in a lump into the menstruüm, it may be difficult afterwards to get it smoothly mixed, especially in cold weather. The mixing may be facilitated by having the cup or glass made warm or the chill taken off the menstruüm, but it is not well to make it decidedly hot.

Some patients have asked to be allowed to take the emulsion "as it is" with some brown sugar over it, and declare that they like it in that form. This is better than not taking it at all, but I prefer its being mixed into a more fluid state. A good many mothers have told me that their children take it spread on bread, instead of butter, and sugared. This is not a bad way of giving it, because in masticating it with the bread it gets well mixed with the food and saliva; I may mention also

that treacle-posset, after it has cooled, is a very good menstruüm, and pleases children when they are fond of sweets.

One more detail is worth alluding to—viz., to order a biscuit or a piece of bread to be eaten after the dose, so as completely to clear the palate of its taste and influence.

It is of the utmost importance to impress upon patients that cod-liver oil and Pancreatic Emulsion are *not to be regarded as medicines, but as articles of diet, without which they, in their state of health, will as surely starve as persons in health would do if deprived of the most nutritive part of their food.* They should be ordered to be weighed when they leave off either the oil or the Emulsion, and to weigh again every week, to see if they lose or gain. So long as they do not lose any weight they may desist from their dose, but must at once return to it if there is the slightest diminution in weight. I always order patients on leaving off either oil or emulsion, to make an equivalent increase in the quantity of fat they eat, and to see whether by this means their weight can now be maintained, and thus to learn whether the power of digesting and assimilating a sufficiency of fat *without artificial assistance* has been restored.

A point of great interest and of vital importance in treating all wasting diseases is to ascertain what was the normal average weight of the patient before any wasting set in. It requires considerable care and circumspection to avoid being deceived on this matter by the patients themselves, who almost always date their wasting from a period considerably later than that at which it actually commenced. They attach no importance to the loss of weight till it begins to tell upon their personal appearance, either in face or figure. Yet, in tolerably plump persons many pounds may be lost before the change is obvious. In cases which do not start from a definite acute illness, but simply depend upon failing digestion and assimilation, the first few pounds are generally lost very gradually. The best plan is, if possible, to ascertain what is the heaviest weight ever reached in the patient's previous lifetime, or when this can not be done, to catechise the patients very

closely with regard to the year or two preceding the date at which they fix the beginning of loss of flesh. Supposing the patients say that loss of flesh began twelve months ago, they should be asked, "Were you just as fat and just as firm in flesh at that time as you were six months before that?" The answer will generally be, "No, not quite"; and then they should be carried back another and another six months, until a time is reached at which they have not the least doubt, either from actual weighing or general impression, that they were at their full weight and full firmness. It must be remembered that loss of firmness, which is, chiefly, loss of solid fat replaced by olein, often precedes actual wasting by a considerable period. This is a change which careful and watchful mothers will observe in children as the first sign of degrading health, and those who are judicious enough to take warning by it, will often, by change of air and of diet, save their children from any further mischief. Increase of fat with loss of firmness in the fat is a certain sign of improper feeding or of impaired assimilation, and such fat will disappear, like snow before the sun, on the occurrence of the first attack of even a trifling acute disease.

Having ascertained as clearly as practicable about the average weight of the patient when in normal health, the next thing is to endeavor by every possible means to recover that weight completely. Where the loss has been considerable, this may prove a most difficult task, and when the loss has gone beyond a certain point, it may be quite impossible to recover the original weight. In very extreme cases of exhaustion and emaciation, with stomachs so irritable that nothing can be kept down, I have been able to put the first stop to the downward progress by mixing Pancreatic Emulsion with nutritive enemata, and it has been administered in this way till sufficient restoration of strength and of digestive power has been gained to allow of food and medicine being given by the mouth. And in cases where the stomach tolerates food and medicine, but in which the loss of weight has been very great, it is well to supplement

the treatment by the stomach by extra doses of emulsion given in enemata; and thus to get a larger daily supply of fat into the system than the stomach could possibly take.* In this en-

* According to the careful estimate of Dr. Lyon Playfair ("The Food of Man in Relation to his Useful Work," 1865), the quantity of fat required by an adult in twenty-four hours, to keep up healthy nutrition, is from 1 oz. to 2-5 oz.; and according to the estimates made from very numerous and carefully-selected data by Mr. Farrants and myself ("On Diet and Regimen in Sickness and Health." Fifth edition. Lewis, Gower street), the quantity is from 2 oz. to 3-5 oz. We may fairly assume, then, that not less than two ounces of fat per day, on an average, is required to keep up healthy nutrition in an adult. We have next to bear in mind, that before a case of consumption ordinarily attracts attention, and begins to be treated as such, many pounds weight, principally consisting of fat, have been gradually removed from the body. In this condition—1, a deficiency of fat throughout the organism; 2, a loss of the power to assimilate the ordinary fats; 3, a constant demand for two ounces per day to maintain healthy nutrition; we administer cod-liver oil, in the belief that this form of fat will assimilate when other forms will not. Supposing that it agrees, and that some or all of it is utilized, a rapid improvement takes place in the patient, from the supply of some of that for want of which life was steadily fading—very much as a cut flower that has drooped for want of its supply of sap rallies and recovers freshness for a time when put into water. But there are very few persons who can take more than from half an ounce to one ounce of oil per day—few who can take even this steadily from week to week without intermission. But supposing an ounce or an ounce and a half per day to be taken regularly, how is this to supply, not only the two ounces per day required for healthy nutrition, but all the extra ounces of arrears that were lost before the treatment was begun? But assuming the possibility of two ounces per day of oil for nutrition, and another two ounces for arrears, being taken and utilized, even then the WHOLE THING MAY BE UNSTABLE AND MAY BREAK DOWN, from the fact that we are supplying oil, and NOT SOLID FAT—a body rich in olein and poor in stearin and margarin, in the place of bodies rich in stearin and margarin and poor in olein, such as the fats taken in normal food.

The practical conclusion from these considerations appear to be, that if we are to give a fair chance of recovery to a patient deprived of the natural powers of digesting and assimilating fats, we must, by one means or another, secure that two ounces of fat of average solidity are utilized every day for the purposes of nutrition, and an additional ounce or two to make up for arrears.

To obtain this end four principal means are at our command—

1st. The administration of as much oil and fat, either as medicine or food, as the digestive and assimilative powers are still competent to utilize.

deavor to restore the normal weight, the influence of exercise and of temperature must always be kept before the mind; a certain amount of exercise and a certain coldness of temperature may be essential to keep up the appetite and digestion, without which no progress can be made with the feeding and fattening process; but all exercise involves waste; therefore, so long as the weight of the patient is in any degree below the normal average, exercise and cold must be kept at the lowest point consistent with maintaining appetite and digestion.* A little over-fatigue every day may entirely frustrate all attempts to recover weight, and a little excess of demand for heat-producing materials to maintain the temperature of the body may just consume all the little surplus we are sending into the blood. Here lie our great difficulties in the restoration of weight, the rocks upon which so many promising cases are "wrecked in port."—*Monograph.*

ART. III.—TRANSFUSION OF BLOOD. By Dr. H. LEISRINK, of Hamburg. [Volkman's Clinical Lectures—Translated from the German by Dr. Henry Kirchner, St. Louis, Mo.]

There are few operations that deserve to be called life-preserving in such an eminent degree as transfusion, and among these few there is hardly one that is technically so simple and

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2d. The introduction of oil and fat into the system by rubbing them into the skin of the body and limbs.

3d. The supply of saccharine and amylaceous articles of food in sufficient quantity to insure that no call shall be made upon the hydro-carbons for elements which can be as well supplied by the carbo-hydrates.

4th. The introduction of Pancreatic Emulsion and pancreatine in sufficient quantities to enable the digestive and assimilative organs to utilize the necessary amount of fat ("On Tuberculosis, its Nature, Cause and Treatment." Page 81. Second edition. Churchill).

* See an article on "Food, Heat and Motion" in Dr. Dobell's Reports on the Progress of Practical and Scientific Medicine in different parts of the world. Vol. 1. 1869. LONGMANS.

so devoid of danger in its execution. Struck down by a sudden enormous loss of blood, a person lies breathing with difficulty, a face pale as wax, pulse hardly perceptible, amidst his relatives, who are frightened, expecting his end from second to second. Finally the long-looked for physician comes and declares that an operation might save him. Every one is willing to give his blood for the purpose. A short operation follows, and new life runs through the veins of one supposed lost. The face reddens afresh, the pulse rises, the central organ receives fresh blood, as by a spell the scene is altered—the person's life is saved! How technically simple is the operation, how insignificant the instruments! In case of need any syringe answers and a bistoury and forceps is all that is requisite. Indeed if any operation, this one deserves to become the common property of all physicians, for any one might be called upon at any moment to perform it. To hesitate is out of the question, every moment bears danger, a precious human life hangs upon the point of the knife of the physician, he lifts the dying man from the verge of the grave and brings him back to blooming, pulsating life.

How seldom has a physician the opportunity to say: "I saved a human life!" After making this operation, when necessary, the consciousness of being the saver of a human life will proudly make your bosom heave.

The operation had many adversities before it could occupy its present position, secure for all time, in surgery. We will not discuss the question, whether in the seventh book of the Transformations of Ovid, transfusion is spoken of, or whether the operation was performed on Pope Innocent VIII.; suffice it to say that in 1666, Lower first made transfusion on the dog. Dennis, in Paris, made it on the human being in 1667 with success. After him, in the same year, Lower and King made it in England several times with success. Fantastic, nonsensical ideas connecting themselves with transfusion of blood from one being to another. In all earnestness the idea was gotten up that now a remedy was found to renovate the human species.

In all these cases the blood of animals was used, mostly of the calf, and from this fact got the opponents of the operation, or rather of the operator, their weapon. The lowering of mankind was spoken of, the honor of the invention was accorded to the devil, and so the opponents of the operation succeeded to bring it into bad repute, especially as some mishaps discouraged the friends of the operation, and so it was excommunicated with the help of worldly and spiritual authorities.*

This operation, upon whose birth people entertained such high hopes, of which they had expected everlasting life upon earth—when their unreasonable demands were not fulfilled, was cast into the darkness of oblivion, it was hardly known any more by name even to physiologists. But when a new era dawned upon physiology and a more finished technicality spread over our science, then the poor Cinderella was recalled to begin a new life at the hand of physiology, and especially of the physiological experiment, to rise from step to step, to occupy a brilliant position in surgery, which, it may be said without wanting to be prophetic, will be more stable from year to year, never to be shaken permanently hereafter.

James Bleandell it was who first, in 1824, executed the operation with success upon the human subject, with human blood, and then made in quick succession three more successful transfusions.

In France and Germany the most illustrious names were connected with the regeneration of transfusion. Dumas and Provost, as well as Dieffenbach, and especially Panum, were very active. For the most important paper we are indebted to the last named author,† who showed scientifically that for transfusion on man, only human blood, and that defibrinated, should be used. Especially this last demand was in some measure an answer to Martin's paper (on transfusion in hæmorrhage of parturients, Berlin, 1859), who only wanted to transfuse undefibrinated blood.

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* Von Belina Swioutkowski, die transfusion des blutes, 1869, p. 9,

† Virchow's Archiv., xxxvii., 1863.

Kühne* gave a considerable extension to transfusion in his paper on poisoning by oxyde of carbon. Several practical physicians wrote on transfusion independent of Martin. Neudorfer employed it in chronic anæmia consequent upon purulent discharges; Nussbaum in chlorosis, etc. Of the most importance are the labors of Hüter, who first introduced arterial transfusion.† Of the method itself one may think as he pleases, but it can not be denied, that the writings of this surgeon awakened a lively interest broadcast amongst physicians. In this consists its great merit. I myself am not enthusiastic upon arterial transfusion, but one must have read the paper of Hüter to know that there is nothing more full of genius existing in this branch.

So for a short sketch of the history of the operation; we have no room for more.

In looking at the practically important relations we have three questions to answer:

1st. What are the indications to-day for transfusion?

2d. Do we take defibrinated or undefibrinated blood?

3d. How do we execute the operation in the best and simplest manner?

As regards the first—indication for transfusion—we can formulate it thus: Transfusion is indicated in all those pathological conditions where all the blood in quantity and quality is so altered that it is unfit to fulfill it physiological duties.

A very wide range, indeed, yet we hope to show it a perfectly justifiable one, for we have to accept anæmia, acute and chronic, as also blood poisoning in its most varied forms, or the alterations of it when the corpuscular elements are diminished or increased in quantity (obstinate cases of chlorosis and leukocythæmia).

In the first instance anæmia ought to interest us, the alteration of the blood in quantity, and we have to distinguish here that anæmia occurring acute, by more or less considerable

* Central Blatt, 1864, No. 8.

† v. Langenbeck Archiv., Bd xii., Central Blatt, 1860, No. 25.

losses of blood, and the chronic produced by a long-continued loss of material as in typhus, profuse purulent discharges, etc.

If we look at acute anæmia, we here have the most brilliant aspect of the operation and of that indication, that is the first, and was, up to a recent date, the only one.

Here transfusion will attain most, as in otherwise healthy people, the quantity of blood being only too little and a restitution of the necessary quantity will mostly be a *restitutio in integrum*. Above all, we have to do here with hæmorrhages of parturient or lying-in women, further, with anæmia after operations or injuries. Excepted are the losses of blood in consumption, intestinal hæmorrhages in dysentery, and similar diseases, here an increase of blood pressure would not be desirable.

Take a peculiar position in a practical point of view, the cases of loss of blood in lying-in or parturient women. It may have occurred to every practicing physician that in a precipitate birth, in abortion, in placenta prævia, relatively large quantities of blood are lost, for a time threatening symptoms ensue, and yet pretty soon a complete recovery follows.

I believe that we do not go wrong to lay great weight upon the ability of the uterus to contract in the recently delivered or aborting woman. If the uterus is not able to contract, and the blood flows continually from its open vessels, do not hesitate a moment to make transfusion. For the injection of blood is the best stimulus for the relaxed uterus. Marked cases that bear on this subject can be found in the paper of Martin; so is No. 6 of the dissertation of Evers' Rostock, 1870, very convincing. But when the bleeding of the uterus ceases, when it contracts with energy, then the transfusion may be given up for a moment, when no otherwise pressing indications demand it. It may, perhaps, become necessary secondarily, and just that possibility of delay is often not to be underrated in its moral effect. A few weeks ago I saw a case in which, through precipitate birth, a woman lost a comparatively large quantity of blood. The question here was, whether to transfuse or not;

everything was ready to make the operation. For a time the pulse was hardly perceptible; she breathed with difficulty; her face was as pale as death, but after two hours the scene was entirely altered; pulse good and full, and her appearance considerably better. Full recovery followed in a relatively short time. But if the next day the pulse sinks again, and if, in weakly women, a continuous illness is feared, then the operation may safely be made secondarily. In all cases where there exists any doubt, it is proper to make the primary transfusion; it is, when made with proper caution, absolutely devoid of danger and easily executed. We have to look differently upon large losses of blood in injuries. How slowly do patients recover in the usual way; often we see them suffer for years from the consequences; here is no time for hesitation, and we make the transfusion at once. The same holds good in hæmorrhages during operations. In clinics we see transfusion performed as an every day occurrence.

Esmarch told me that he made transfusion on a person during the extirpation of a fibro-cavernous tumor from the base of the skull, where much blood was lost, by pumping back new blood into the arm. Also in a case of exarticulation of the femur, Esmarch caught up the flowing blood, and drove it back directly into the femoral vein.* So transfusion became an efficient help at other operations, and will become the more so after a time. A contribution to the utilizing of transfusion I have given in the "Berlin Clinical Weekly," No. 7, and in "Langenbeck Archiv.," vol. xiii.; while, for acute anæmia, nothing more need be said. We meet for the chronic form with opposition from different sides. Many who would not hesitate to make the operation in acute hæmorrhage, bethink themselves a long time, whether to give the same benefit to a convalescent from typhoid fever who can not get well. And are not the relations in some measure the same?

* This procedure was first recommended by Volkman. See R. Volkman, on three cases of exarticulation of the hip-joint. German Clinic, 1868, Nos. 42 and 43.

I, of course, do not speak of patients who suffer from a disease that always diminishes the blood quantity anew. Even the most sanguine will not attempt to make a transfusion in carcinoma uteri or ventriculi. But there are cases where, from continued febrile disease, the vital powers are at so low an ebb that no convalescence can take place, or where the latter lasts so long that a small inter-current ailment is capable to extinguish the faintly-burning light of life. I admit that the several cases recently published in the dissertation of Evers, and later by Fügensen, are only partially encouraging, and yet, among them are such brilliant improvements and cures that it is certainly remunerating to proceed in the same path. In this category belongs chronic catarrh of the stomach. In many of these cases exists a detrimental circulation. Because the quantity of blood is diminished, and at the same time impoverished, the secretion of digestive juices is badly performed, and because the materials for digestion are not secreted in sufficient as well as in good quality, of course good chyme is not sufficiently added to the blood. Transfusion takes a link out of the chain that encircles the patient, the blood is made capable of secreting good pepsin—with hydrochloric acid, digestion will be improved, and the patient begins to recover. We only have to modify the operation in these cases. Often we will have to make a derivatory venæsection, and at the same time not inject a large amount of healthy blood at once, but make frequent transfusions in small quantities. The heart, by degrees used to the poor quality and insufficient quantity, would be, as it were, surprised by a large mass of it, and by the poor quality it becomes, of course, poorly nourished, like all the other organs. If we now impose too much work upon it suddenly, by injecting a larger quantity, we might have bad consequences. We do not wonder when a badly nourished biceps muscle can not at once perform the labor of a Hercules. Therefore, in chronic anæmia use frequent small transfusions.

As concerns the alteration of blood in quality, as indication for transfusion, the hospital physician has to contend above all

with toxæmia from wounds, with pyæmia and septicæmia. It is not the smallest merit due to Hüter to have renewed the battle against these scourges of hospitals, and especially to have brought transfusion into action. The success is, as yet, not brilliant, but a temporary improvement is often obtained. One thing has to be understood—we shall only successfully overcome the septic and pyæmic alterations of the blood by transfusion, when we succeed in stopping the source of the poison. When from a wound the development of animal and vegetable organism is constantly renewed, if we leave a person suffering from pyæmia, to the poisons created by the same, we can not save him by transfusion, if we would throw the blood by the bucket full into his veins. I always fear when I see such pains taken against the well-pronounced traumatic diseases, that the primary cause is lost sight of. In other words, the most effective warfare against this plague consists in the most perfect hospital hygiene. So then, in the first instance, prevention of wound diseases; but if they yet appear in spite of all, then the inexorable foe must be fought upon his own ground, the blood, always presuming that a fresh poisoning of the already impoverished blood must be prevented. Here transfusion must be repeated, for we must replace, if possible, the old by entirely new and healthy blood.

Another qualitative alteration of the blood that indicates transfusion, is the poisoning of it by gaseous poisons, oxyde of carbon, sulphureted hydrogen, etc. It is a known fact that it acts as a poison by entering into a closer chemical combination with the red blood corpuscles than oxygen. By it blood is robbed of its most important quality. By transfusion you attack the evil, by its roots, in bringing new blood corpuscles into the circulation. In these cases we draw by venæsection from the poisoned blood as much as possible and substitute for it an equal quantity of new, healthy blood. A second injection is needed when the first one proves insufficient. Of three cases of poisoning with oxyde of carbon that Evers reported, two were saved.

Transfusion further will have to be employed in the more rare cases of poisoning by opium, atropia and chloroform. It mostly depends upon feeding the central organs with new, not poisoned blood.

The composition of the blood in its corpuscular elements may be altered, and this alteration may create a cause for transfusion. To this belong the obstinate cases of chlorosis and leukocythæmia. Nussbaum saw good success in chlorosis; Mosler in leukocythæmia, although only partial in this latter disease, yet the experiments ought to be followed up when other remedies fail.

2. Do we have to take defibrinated or undefibrinated blood for transfusion?

This question threw up much dust ten years ago, especially after the appearance of the oft-mentioned paper of Martin, and caused many a battle, pro and con. Now it is settled, we believe, for good, and that in favor of defibrinated blood. Yet we will be impartial, and weigh the advantages and disadvantages. Martin advances an advantage of his method; that by defibrinating a good deal of costly time might be lost, and that by using undefibrinated blood no disadvantage would arise. As to the first objection, we can hardly see the truth of it, for if the patient is gone so far that a few minutes will doom him to death, then we will be too late even with undefibrinated blood. The defibrination is so simple a manipulation, and one so quickly executed, that it certainly should be employed, when we consider the undeniable dangers of undefibrinated blood. And what are the dangers? Those of embolism and thrombosis. And if there never had occurred a case in which embolism had hastened the end of the patient (the unfavorable cases being seldom published) the writings of physiologists such as Provost, Bischoff and Panum, ought to deter us from using undefibrinated blood. Do we not wish to learn from science? Panum says in his eminent work: "We never can be sure with undefibrinated blood that we do not inject it partially clotted, if even this be in small quantities. The larger the quantity of

undefibrinated blood to be transfused, the greater are the difficulties of execution and the greater are the dangers. The stirring of the blood has a special advantage, it makes the venous blood arterial, the blood corpuscles take up oxygen from the air and makes it so much the more fit for transfusion.

In what manner is blood best defibrinated? I have taken, in five transfusions made by me, a clean wooden stick for stirring the blood. After beating or stirring it for some minutes, I strained it through fine linen and then beat it anew. When I found no fibrin deposited on the stick, I strained the second time, and now the blood was ready for injection. During the stirring, the vessel containing the blood is kept in another vessel with warm water of 38° C. temperature (100° F.) It is not necessary to be over anxious about one or two degrees, even if the blood cools down somewhat it does not matter. This is in so far of importance to know, as in a country practice a thermometer is not always at hand to test the precise temperature.

So this question is answered; we take defibrinated blood for transfusion. Now the third question.

3. How is the operation in the best and most simple manner performed?

Of course the answer to this question must decide the fate of the operation, that is, the possibility of performing it easily, for if we have to do with a difficult and complicated operation, it will never become the common property of all, and will only have a free sway in hospitals and clinics. Thank the Lord this is not so. This eminently life-preserving operation is at the same time the most simple, and very easily executed.

First of all, what instruments do we need for the operation?

In case of need any syringe would answer, and a knife would do the rest. In case of need, said I; but the matter may be facilitated by instruments made especially for the purpose; we must only select the most simple.

Up to the appearance of Belina's paper, inclusive, each writer

on the subject held it to be his duty to invent a new instrument. Yet very few of them satisfy the demands of the surgeon.

What do we expect of a syringe for transfusion?

With the utmost simplicity it has to guard against access of air into the vessel. To satisfy this last demand, there were invented perfect monsters of syringes. One only needs to look at the paper of Belina to become frightened in this respect. The two most practical ones are those of Eulenberg and Uterhart, and perhaps the better of the two, the one of Uterhart.

Now for transfusion itself. In all cases in which the blood is altered in quality and not in quantity, there is to be made a derivatory venæsection at the time of transfusion, and the amount of blood drawn is to be a little larger than the quantity you wish to inject. But how much is to be injected? All quantities have been taken between a half ounce to twelve ounces. To establish a normal quantity for injection as Hüter desires, say 7 to 8 oz., is not objectionable. I believe that the indication has to decide this question also. In acute anæmia and in alterations of the blood in quality, as in poisoning, it will be an important point to inject as much as possible of healthy blood, in order to dilute the poisoned blood. Here, of course, is not to be injected less than 250 grms. (about 7 oz.) In cases of chronic anæmia we have to make small transfusions, say of 100 to 159 grms. (from 3 to 4 oz.), and repeat the same as often as may be necessary. I would here call attention to the fact that no one should hesitate to repeat the transfusion several times. You must not fold your hands at the first effort to save life, and leave the rest to God.

We should take examples from Hüter in our perseverance. Suppose we are called upon to make transfusion. A healthy, robust man, who is willing to lend his blood for the purpose, is at hand. We draw blood from a vein of his arm, and catch it in a clean vessel and defibrinate it in the manner above stated. If ready, you must keep it warm while you turn to the patient; you look for a favorably situated vein, say the median

basilic or cephalic, which is laid bare by an incision. With a few more cuts you prepare it free in its circumference; the distal end is now ligated, so as to keep the field of operation free from blood. A little above you place a second ligature, but without tightening it. You now fill a Uterhart's syringe and also its canula, and carry the latter through the incision into the vein. To the canula you attach the syringe and drive, with a slow rotary movement of the piston, the blood into the vein. Some person you will find to whom you can entrust the pulse of the other side, and who counts its beats aloud. In doing this we are secure against accidents, and you can see the breathing of the *not chloroformed* patient during the injection yourself. A slight deviation of the pulse always occurs; it either becomes more full, or it becomes for a moment smaller. This need not disturb the operator, or a slight cough, or disquietude of the patient. Strong oppression of the chest, irregularity of the pulse demand caution, but syncope demands discontinuance of the operation. You will certainly guard against some of these eventualities by quietly talking to the patient, for the moral impression of the operation is a great one. Accidents demanding a discontinuation of the operation are very rare; I only would not leave them unmentioned.

In the picture drawn I assumed that the surgeon operates by himself. If experienced assistants are at hand, of course this simplifies the whole procedure, so that while one prepares the vein, the other prepares the blood. This will shorten the time one half.

When the injection is completed, you take out the canula, tie the vein above, and cut it through between the two ligatures, and sew up the wound; one turn of roller bandage completes the whole simple manipulation.

A few practical hints may find a place here. It sometimes occurs that the canula stands against the walls of the vessel, and no blood is propelled into it. It suffices to draw the canula back a little, and to place it more into the longitudinal axis of the vein to overcome the impediment. A little pull at the un-

tied ligature often suffices to facilitate the injection. But it may be said this is always venous transfusion; is not the arterial transfusion better? According to my views the arterial transfusion is not at all suited to replace the venous, for manifold reasons. Venous transfusion is a more simple operation, and answers the same purpose as the arterial.

If this view is a correct one, which I hope to show, then arterial transfusion never will gain ground. Transfusion unfolds its most brilliant side in the hands of the practical physician. The practical physician, who perhaps operates without sufficient assistance, will not hesitate to open a vein, but he will probably be very careful how he cuts the brachial or radial artery in its upper part. Who guarantees that hæmorrhage will not occur when a physician, after an operation, has to leave his patient, and after the lapse of several hours, may have to go several miles into the country, when he has no experienced nurses; not to speak of the difficulty of the operation itself. Some weeks ago an experienced surgeon in Hamburg tried arterial transfusion. The resistance was so great that the blood could not be forced in sufficient quantity, and he had to make a venous transfusion after all. These are unpleasant things that one would rather shun in private practice, even when the hospital surgeon cares very little about them. Similar obstacles Hüter describes himself. The access of air, whose danger, of course, in arterial transfusion is avoided, we do not fear when we operate with care and a good syringe, and phlebitis and its consequences are rare in private practice. Hence arterial transfusion will find no favor in private practice, if even it is practiced here and there in hospitals. A fundamental principle in surgery is, that of two methods leading to the same end, you must choose the one least complicated; and the most simple is venous transfusion. Hüter himself does emphasize his method; he says at the close of his paper: "Whether venous or arterial transfusion, remains with me a secondary question; but transfusion is a weapon against diseases, against which we have heretofore fought in vain. This is the problem which we must

try to solve. Success full of blessing will not be wanting." *St. Louis Med. and Surg. Journal.*

Note.—The best method of transfusing with blood is unquestionably that with Dieulafoy's aspirator; one nozzle in the vein of the patient and the other in the vein of the person contributing the blood. There is in this operation no necessity for defibrinating the blood, and much valuable time is thus gained.—E. S. G.

Art. IV.—On the Relative Power of Certain Antiseptic Agents.

In the recently published Annual Report of the Army Medical Department (vol. xiii.), Surgeon-Major O'Neal gives the results of an experimental inquiry into the relative power of some reputed antiseptic agents. The experiments were made upon a standard test-fluid prepared by infusing lean beef in warm distilled water, the infusion being carefully filtered to get rid of the fat, and used in a perfectly fresh state. This test-fluid was easily managed, and it could readily be obtained at all times of the same strength of organic matter. This strength was determined by measuring accurately a quantity of the filtered infusion from a burette into a platinum vessel, evaporating the fluid, weighing the residue, incinerating this, and again weighing. The infusion was always made of sufficient strength to bear dilution, and the amount of organic matter being ascertained in the manner above stated, a single calculation gave the quantity of distilled water necessary to be added to each separate infusion, in order to dilute all to one uniform standard of 0.5 grammes of organic matter to 100 c.c. of water.

A quantity of the agent to be experimented on was next weighed, dissolved in an accurately measured quantity of distilled water, and passed from a burette, in the necessary quantities, into a series of clean, wide-mouthed glass jars. To each of these were added a definite quantity of the beef infusion. Where the agent was not sufficiently soluble in water, the quantities required were separately weighed, made into a paste with a small quantity of distilled water, and then thoroughly mixed

with the beef infusion. One of the jars contained beef infusion alone as a standard of comparison.

The whole were then placed in a press in the laboratory, freely exposed to air, and to a moderate light; but not at all to the direct action of the sun. All the antiseptics experimented upon were thus subjected to exactly the same conditions, with the exception of temperature. A self-registering thermometer was, however, left in the press, and the results of its readings recorded. The contents of each glass were examined daily by a microscope with a power of one-eighth, the observations noted, and the results condensed in Table A.

A preliminary experiment was made with the following agents—namely, 1, thymol; 2, zylol; 3, chloride of calcium; 4, sodium chlorate; 5, potassium chlorate; 6, sulphate of zinc; 7, magnesium chloride; 8, calcium bi-sulphite; 9, chloralum; 10, chloride of aluminium; 11, chloride of zinc; 12, permanganate of potassium; 13, sulphate of copper; 14, bi-sulphite of sodium; 15, carbolic acid; 16, bi-chromate of potassium.

The result of this experiment was to show that the first eight had little or no power, and they were therefore dismissed from further consideration, after the correctness of this conclusion had been confirmed by repetition of the experiment. The two first agents, thymol and zylol, were tried because they were at the time used in Dublin, in the treatment of the small-pox. They had the reputation obtained from Germany of being powerful remedial agents in this disease through exercising an antiseptic influence on the blood. Their use was, however, shortly discontinued, as they were found to be of no practical value.

During the course of the observations it became manifest that the progress of decomposition might, for the consideration of comparative practical value of the several agents, be conveniently divided into four stages—namely:

1. From the commencement of the experiment to the observance of the first animalcule in independent motion.

2. From this point to the existence of bacteria, etc., in abundance.

3. From the latter point to the first perception of a putrescent smell.

4. To the point when the specimen became so offensive as to require to be thrown away.

It is not pretended that these stages are distinctly marked; on the contrary, the decomposing fluid passes gradually, and more or less slowly, from one to another. They are, however, held to be useful in considering the value of antiseptic agents in the different objects for which they are used—medical, surgical and sanitary.

In medicine these agents are administered internally, with the object of exercising, after absorption into the circulation, an antiseptic influence on the blood, as in the case of thymol and zylol for small-pox, and sulphites by Professor Polli in various diseases. But these experiments appear to show that even in the proportions of equal parts of the agent to organic matter, they do not altogether prevent the development of animalculæ, and cause one to doubt the possibility of introducing into the system an amount of any antiseptic sufficiently large to bear to the organic matter of the blood, such a proportion as would exercise any material influence on disease germs contained in it.

A different conclusion may be drawn when the agent is used externally. In the case of carbolic acid, for example, animalculæ were not abundant before the ninth day in the experiment in which it was used in the proportion of one to twelve. When employed as a lotion to an ulcer or wound, the decomposable matter against which it would have to contend would be the organic matter contained in the secretion on the surfece of the ulcer, and however weak the lotion might be, it is probable that the amount of carbolic acid actually applied would be much greater than that of the organic matter. These experiments, therefore, whilst seeming to show that carbolic acid is not a very useful agent for sanitary purposes, do not at all affect its character as a direct local application in surgical practice.

Intermediate between these is the case in which an agent is administered internally, with the object of producing a direct local action. Sulphate of copper, when used in the proportion of one to twelve, retards decomposition so that animalculæ do not become abundant before the fifth day, and smell is not perceived before the twenty-first day. It is suggested that the beneficial influence of this agent in the diarrhœa of typhoid fever is not confined merely to its action as an astringent; but is due also to its antiseptic qualities. Acting as a direct preventative of decomposition in the contents of the bowel, it removes or lessens the amount of septic matter liable to be absorbed by the lower portion of the canal.

The action of the agents experimented upon are, however, mainly considered from a sanitary point of view.

It appeared practically impossible to employ any of the agents for the treatment of sewage in such proportions as would altogether prevent the development of animalculæ, and it became necessary to consider their relative value when used in proportions in which they would prevent the development of animalculæ in abundance for a given period, say ten days; and again in which they would prevent putrescent smell for the same period.

In all the experiments, animalculæ having distinct (however feeble) motion were observed to be present on the second day. This was distinctly ascertained, by repeated trials, to be the case, even with the most powerful of the agents, bi-chromate of potassium. In the light of these experiments—

Chloralum appears to be an agent of little power, as when employed even in so large a proportion as one part to two of organic matter, animalculæ became abundant on the fifth day, and putrescent smell commenced on the seventh. Its price is low, but this does not appear to compensate for its want of power.

Chloride of Aluminium.—In the experiment with this agent, animalculæ became abundant, before the tenth day, in those containing six parts of organic matter, and putrescent

smell in those containing eight parts. In the proportions of one, two and four, fungi were developed in great abundance, and there was a musty but not offensive odor. The agent is expensive, and of no practical value.

Chloride of Zinc.—With this agent animalculæ became abundant on the sixth day, in the proportion of one to two of organic matter, and putrescent smell was observed on the thirteenth day, in the proportion of one to four. In lower proportions fungi were abundant. In addition to its want of power, this agent is costly.

Permanganate of Potassium appears to have considerable power as a deodorant, but hardly any as a germicide. The experiment lasted a month, and, though no smell was observed in those from fourteen parts of organic matter downwards, they literally teemed with bacteria, vibriones, etc., after the eighth day, even in the experiments containing equal parts of the agent and organic matter.

Sulphate of Copper was under observation for six weeks. Animalculæ became abundant on the sixteenth day in the experiment containing four, and smell was noted on the twenty-first day in that containing twelve parts of organic matter. Those containing a lesser amount remained free from smell throughout, but fungi were developed abundantly in all, except that containing equal parts, which remained free from smell and fungi, showing only a very few animalculæ in feeble motion.

Bi-sulphite of Sodium is of no value. In the experiment containing four parts of organic matter, animalculæ were abundant on the fourth day, and putrescent smell was observed on the tenth. In an equally short time fungi became abundant in the lower proportions, and the higher ones ran rapidly into putrescence.

Carbolic Acid (Calvert's No. 2).—In the experiment containing eight parts of organic matter, animalculæ became abundant on the tenth day, and in that containing six parts not till the twenty-third. Putrescent smell was observed on the twelfth

day in that containing twelve parts. There was a very slight development of fungus in the one containing six parts, but in none of the others. Those containing four parts and less of organic matter showed, throughout the experiment, animalculæ in distinct and tolerably active motion, but they never became abundant. No fungi were formed, and no putrescent smell was developed.

Bi-chromate of Potassium.—In the first series of experiments this agent was tried up to thirty parts of organic matter, and was under observation thirty-nine days. The agent having resisted up to this point, a second series, in higher proportions, was commenced, and was still going on when this paper was written on the twenty-fourth day. As with all the other agents, animalculæ having distinct independent motion were observed on the second day. In the first series these were few and their motion feeble, requiring occasionally several examinations before being satisfactorily made out; but in the higher proportions, in the second series, they became gradually more numerous, and, in the proportion of one to one hundred and fifty, reached the point of abundance on the eleventh day, and developed slight smell on the twenty-first day. In the experiments containing six parts and less of organic matter there was no fungus. From this proportion upwards it gradually increased, and became abundant at an early date in the higher ones.

This was the most powerful of all the agents tried. It appeared to be quite equal to carbolic acid in preventing the development of the fungi, and it was much superior to it and all the others in limiting (none of them prevent altogether) the development of animalculæ. It was also by far the most powerful as a deodorant.—*London Practitioner.*

ANALYTICAL DEPARTMENT.

"Qui e nuce nucleum esse vult, frangit nucem."—PLAUTUS.

CONTRIBUTIONS. By Professor PAUL F. EVE, M. D., Nashville, Tennessee.

Remarkable Nervous Perturbation.—The following is from a paper presented to the Medical Society of the State of New York, by C. A. Robertson, M. D., M. M. S. S., Member of the American Ophthalmological Society, Ophthalmic and Aural Surgeon at St. Peter's Hospital, Albany, and at the Troy Hospital:

The following case illustrates a curious reflex nervous action, and the phenomenon presented is, I believe, quite *sui generis*: Mrs. S., aged fifty years, was operated on for the removal of a senile cataract in the right eye. Patient was healthy, rather below medium size, and mentally a little sluggish. Her eyes were small and deeply set, with shallow anterior chambers.

A lower section of the cornea was made with Beer's knife, and, in order to secure ample room for the lens to make its exit with facility, the section was effected well in the sclero-corneal junction. After the removal of the cataract, which was readily accomplished, the corneal flap came nicely into apposition.

At the expiration of a week, during which time the patient had been kept very quiet, and before the eye-lids had been separated, in order to ascertain the result of the operation, the patient began, for the first time, to complain of pain in the eye. On examination of the eye, union of the corneal flap was found to have taken place properly, but the iris was seen to be badly inflamed. Owing to the intolerance of light, no attempt was made to determine the degree of vision. The pain that had set in at this time increased, and was, from time to time, excessively severe. The malady, an *irido-choroiditis*, resisted for weeks every means employed for its mitigation.

Early one morning she sent for me, and, on visiting her, she complained that she was suffering from a most intolerably

noisome stench. She seemed unable to find language strong enough to express her disgust for the foul odor that tortured her, but the anguish portrayed on her face supplemented the narration which her tongue inefficiently essayed.

She said that an unpleasant smell commenced the previous evening, and gradually grew stronger and stronger, until now she could bear it no longer and live. She could compare it to no smell she had ever known before, for it was worse than all conceivable bad odors combined, she said. As there was no unpleasant odor in the apartment, perceptible to any one else, this was at once regarded as a subjective sensation, referable to a reflex excitation of the olfactory nerve; in other words, it was a neuralgia in a nerve of special sense, and was undoubtedly aroused by irritation of the ciliary nerves consequent upon the operation.

In order to deliver her from her mephitic torture, at least temporarily, I made a hypodermic injection of a solution of sulphate of morphia into the arm. She soon fell into a tranquil sleep, which lasted three or four hours. When she awoke, the detestable odor was gone, and did not afterwards reäppear.—*Boston Med. and Surg. Journal.*

Hysterotomy versus Dilatation.—It is not many years since the introduction of the hysterotome, or some cutting equivalent, for the treatment of mechanical dysmenorrhœa and other uterine disturbances. And never operation so popular. Every woman who could get up a uterine sensation—and very few unable to do so—was content only when her womb was under daily training with glittering instruments of cunning form. Fashionable ladies divided their time between the milliner and the gynæcologist, and this latter gentleman, when he had forced his way through the entrance of the matrix, *vi et armis*, felt that he had done his country as much service as a United States soldier who should scalp a Modoc. Then came rumors of hæmorrhage, and of cellulitis and peritoneal inflammation. Then came doubts and misgivings, and a disposition to back down

from the knife to the old method of dilatation—Simpson, as we believe, leading the way and confessing that he had shed needless blood. So the hysterotome was threatened with ignominious discharge, like the lancet. Now comes Dr. Percy Boulton, and reads to the Harveian Society of London ("Obstetrical Journal" for April) an elaborate paper in defence of cutting as against dilatation. He adduces 900 cases operated on by Sims, Emmet, Greenhalgh, Tanner, and himself, with only one death, and that in a patient who had tubercular peritonitis previous to the operation. The danger is from hæmorrhage and cellulitis. In 100 cases operated on by Dr. Tanner and himself, hæmorrhage occurred but once, and was easily arrested, a good recovery following; cellulitis never occurred. In 500 operations by him and Emmet, cellulitis occurred but once. In 300 cases by Greenhalgh, one had profuse hæmorrhage, which was relieved by plugging; five had cellulitis, and one fatal peritonitis, as already referred to. Inflammation, says Dr. Boulton, is no more likely to follow cutting than dilatation. On the contrary, the parts being in many instances congested, irritated or inflamed, incision is the appropriate remedy, and gives relief where dilatation would increase the difficulty and danger. Besides, simple dilatation often fails of a permanent cure, just as the extreme dilatation of childbirth is followed by a return of stricture. Dr. Boulton related six cases in which he had both cured dysmenorrhœa and sterility by hysterotomy, after the failure of the other method. In conclusion, he stated that, "although he did not consider the process as a universal panacea for every ailment of women, and should not run into the extremes that Dr. Henry Bennet had lately indicated as possible, he was nevertheless of opinion that, in proper cases of mechanical dysmenorrhœa; hysterotomy was the most satisfactory mode of cure."—*Pacific Med. and Surg. Journal.*

Inoculability of Cancer.—Desirous of ascertaning the effects of cancer grafts upon the body of rabbits, Hyvertl ("Gaz. des Hop.," No. 49, 1873, "Allg. Med. Centr. Zeit.," 1873, p. 602)

undertook a series of experiments. The portions of tumor free from pus, and not far advanced in development, were introduced deep into the tissues as far as the muscular layer.

Inflammation and induration resulted, the latter to be felt five months afterwards as a "tumor." This was surrounded by a tissue rich in vessels, and presented its previous appearance: cancer cells and alveoli at the periphery, granulations commenced toward the centre; at the latter point was calcification. The autopsy showed that neither infection nor general disease resulted. The author concludes that young cancer cells, transplanted from man to animals, do not produce cancer.—*Ex.*

Convalescence in Typhoid Fever.—Dr. P. W. Latham writes to the "Lancet" of July 5, 1873, that the only satisfactory answer to the question, When is a patient convalescent from an attack of typoid fever? is, after the morning and evening temperatures, and especially the latter, on *at least* two successive days, have remained about the normal point, or between 98° and 99° F. The patient's tongue may be clean and moist, the appetite ravenous, the patient crying out for food, and the typhoid ulcers still unhealed. The thermometer alone will tell us this; it will probably show, at this stage, an evening temperature of about 101° F., with a morning temperature of 1.6° to 2° lower, and a mutton chop might now be sufficient to induce fresh irritation of the intestinal ulcers, fatal hæmorrhage, or perforation.

Treatment of Enuresis. By Dr. Buyelmann, Cologne.—The author was induced by an article in the "Berlin Klin. Wochenshrift," 1871, No. 6, to try the syrup ferri iodidi in a severe case of incontinentia urinæ. The patient was a young girl, thirteen years old, of nervous temperament and anæmic. The principal complaint was the incontinence of urine, so severe as to prevent her from walking any distance from her home without wetting herself. In addition to generous diet, she took, for three weeks, syrup ferri iodidi, seven grammes ad aquæ, syrup simp., aa, fifty grammes; a teaspoonful every two hours. After

a week's treatment, there was a marked improvement, and, in two weeks more, she was discharged well.—*Berlin Klin Wochenschrift*, No. 6.

Enormous Accumulation of Extraneous Matter in the Stomach.—The patient in this case was a girl, aged four, who died in Hardwicke Hospital, of uncontrollable purging and vomiting. For nine months she had had a hard tumor in her abdomen, but nothing peculiar had been observed by her mother about her appetite. She never complained of any pain till two days before her death, when she was attacked with sudden colic, which lasted about an hour and recurred twice. The tumor was large and hard, and was freely movable. At the autopsy it was found to be composed of a collection of extraneous matters, such as pieces of cloth, cord, straw, grass, chips of wood, etc., which were all matted together into one large mass occupying the entire cavity of the stomach. A similar aggregation was found near the end of the jejunum. The rest of the intestine was empty and healthy throughout, with the exception of a large ulcer which existed in the duodenum over the heap of the pancreas. Dr. Yeo, by whom the specimen was shown at the meeting of the Dublin Pathological Society, considered the case interesting as showing the difficulties attending the diagnosis of the disease called *pica*, when the peculiar aberation had never been observed. The amount and position of the aggregation were also unusual. The ulcer in the duodenum seemed to support the idea that some irritation in the alimentary tract is the usual cause of the disease.—*Med. Press and Circular.*

The "XIXe Siècle" relates of Dr. Nélaton that he was accustomed to say: "If you have the misfortune to cut a carotid artery when performing an operation, remember that it takes two minutes for syncope to supervene, and as many more before death occurs. Now four minutes are four times the time required for a ligature, provided you don't hurry yourself—never hurry yourself." The "Temps" says: "It is related

that when he began his studies, he worked with such ardor that he often refused himself the time necessary for sleep. He procured a plank, some five or six feet long and forty centimetres broad, the extremities of which he placed on two chairs. He lay upon it, holding his book open above him. It is said that in this position the want of sleep is less readily felt. When, in spite of him, his eyes closed and the book fell, the shock disturbed his balance, and he followed the book. The shock aroused him, and he up and began his work again."

A Wax Candle in the Bladder of a Female.—This interesting case was observed a short time ago at the Hôtel Dieu, Paris. The patient, on admission, complained of intense pain in the abdomen. The urethra, abnormally dilated, easily admitted the finger into the bladder, when a hard, voluminous body was felt. The woman stated that, on account of great difficulty in making water, she had passed a candle through the urethra and had accidentally let it slip into the bladder. It was readily removed with a pair of pincers. The end of the candle, which had been rounded with a knife, was covered with calcareous matter gathered there during the five weeks the candle had stayed in the bladder. Speedy recovery.—*Boston Medical and Surg. Journal.*

How to Cure a Cold.—The whole fraternity of editors, and all their readers, owe a debt of gratitude to one of their members, the editor of the "Danbury News," for a report of the following case, instituted by, though not practiced on himself, but by one of his editorial corps. "He boiled a little boneset and hoarhound together, and drank freely of the tea before going to bed. The next day he took five pills, put one kind of plaster on his breast, another under his arms, and still another on his back. Under advice from an experienced old lady, he took these off with an oyster-knife in the afternoon, and slapped on a mustard plaster instead. His mother put some onion drafts on his feet, and gave him a lump of tar to swallow. Then he put some hot bricks to his feet and went to bed. Next morning,

another old lady came in with a bottle of goose oil, and gave him a dose on a quill, and an aunt arrived about the same time from Bethel, with a bundle of sweet fern, which she made into a tea and gave him every half hour until noon, when he took a big dose of salts. After dinner, his wife, who had seen a fine old lady of great experience in doctoring, on Franklin street, gave him two pills of her make, about the size of an English walnut and of similar shape, and two tablespoonsful of home-made balsam to keep them down. Then he took a half-pint of hot rum, at the suggestion of an old sea captain in the next house, and steamed his legs with an alcohol bath. At this crisis two of the neighbors arrived, who at once saw that his blood was out of order, and gave him half a gallon of spear-mint tea and a big dose of castor oil. Before going to bed he took eight of a new kind of pill, wrapped about his neck a flannel soaked in hot vinegar and salt, and had feathers burnt on a shovel in his room. He is now thoroughly cured, and full of gratitude."—*The Sanitarian.*

Foreign Bodies in the Stomach.—A case is recorded in "Il Raccoglitore Medico" (No. xvi., 1873), by Dr. Benedetti, in which a nun, aged twenty-two, after suffering for some days from symptoms of gastric fever, with obstinate vomiting, ejected from her stomach a brass cross, one-third of an inch long, the cross piece being one-fourth of an inch long. She remembered having swallowed it when she was nine years old. In the interval it had not produced any inconvenience. A case is also related in the "Imparziala" for June, in which a soldier swallowed a tablespoon. Severe dyspnœa followed; and in about three-quarters of an hour the spoon was ejected by vomiting.—*London Med. Record.*

Gelseminum (Gelsemium) Sempervirens in Odontalgia.—Dr. J. W. Degg ("Lancet," May 24, 1873), reports several cases of severe pains in the jaw and side of the face, arising from decayed teeth, which were relieved by the use of this drug. From ten to twenty minims of a tincture—made by

macerating for a week an ounce of the root in eight ounces of proof spirit—were given every three hours. The pains usually ceased in the course of forty-eight hours. Dr. L. has not found gelseminum of marked service in lumbago, sciatica, or other pains which we are accustomed to call rheumatic.

Saline Cathartics.—Dr. Adolph W. Miller ("Amer. Journal Pharmacy," July, 1873), considers the effervescing solution of tartrate of sodium an improvement on the popular citrate of magnesia, as being more agreeable to the taste, more reliable and efficient in its action as a purgative, with less tendency to tenesmus; its forming a more permanent solution; and its cheapness.

An interesting case is reported by M. Dieulafoy in which an infant, six hours old, was poisoned by a dessertspoonful of laudanum, and from whose stomach the poison was extracted, before it had taken fatal effect, by means of the pneumatic aspirator.—*Ex.*

Dr. Joseph Bell, of Edinburgh, in a paper on surgical cases in relation to temperature, lays down the following axioms:

1. Suppuration, even very profuse, does not necessarily imply any great rise in temperature, so long as it is not putrid.
2. Fœtor or putrefaction of suppuration always induces a rise in temperature.
3. A high temperature, lasting for more than three or four days after the injury or operation, indicates mischief impending, such as sloughing or abscess.
4. The temperature generally gives warning a day, or even two days, before the pulse.

Means of Diagnosticating Lipomata.—A character peculiar to lipomata resides in the property belonging to all fatty tumors of hardening under the action of cold. When, after the use of ice or the ether spray, in the case of a doubtful tumor, the growth is felt to become harder, the presumption is that the case is one of lipoma.—*Rev. Med. Phot. des Hopiteaux.*

Subcutaneous Injections.—Dr. Constantin Paul recommends glycerine as a dissolvent for subcutaneous injections. He considers it to be far superior to water, alcohol, etc.; it is neutral, can be kept easily, and is, of all liquids, the one which approaches the nearest to the composition of subcutaneous cellular tissue.—*Lancet.*

Adhesive Plaster.—According to Otto Facilides, adhesive plaster, which has become brittle by age, and has lost its adhesive qualities, may be rendered adhesive again by coating it with oil of turpentine, by means of a sponge, and leaving it exposed for a day.—*Am. Practitioner.*

CLINICAL RECORDS.

"Ex principiis, nascitur probabilitas: ex factis, vero veritas."

ART. I.—TWO CASES OF MALARIAL HÆMATURIA. By THOMAS J. TURPIN, M. D., Forkland, Greene Co., Ala.

CASE I.—On the 20th day of December, 1871, I was called in to see W. O., aged twelve years, who had just had a very severe chill, followed by high fever, and the appearance of blood in the urine. The fever lasted several hours, and, upon its subsidence, the hæmorrhage from the kidneys ceased. I was informed that this was his third attack of the kind—one having occurred on each of the two preceding days. The paroxysms came on with great regularity (about 11 o'clock A. M.), and although while the fever lasted the urine was rather copious in quantity and loaded with blood, yet during the intervals which elapsed between the attacks this secretion became perfectly clear and natural. I ordered for that night a purgative dose of calomel, and for the next morning twelve grains of sulphate of quinine, to be given four hours before the expected paroxysm. This had the effect of preventing the attack, and the quinine was continued three days longer. The patient was

living in a malarial district, and had suffered much from the effects of malarial poison. After giving the quinine, no more blood appeared in the urine. I then ordered—

℞.—Ferri Redacti;
Quiniæ Sulphatis;
Zinci Sulphatis, aa. ℥i. M.

Make into sixty pills. Take one before each meal.

This tonic was kept up for some weeks with marked benefit, the yellow, unhealthy hue of the complexion disappearing, and the appetite and strength returning. I have never before and have never since seen a case of malarial hæmaturia of a distinct and intermittent type.

CASE II.—J. H., aged twenty-three, had suffered slightly from intermittent fever, which finally culminated in an attack of malarial hæmaturia. Being called in to attend the case, I found him in the following condition: High fever, great thirst, pain in the region of the kidneys, complexion of a bright-yellow hue, and urine loaded with blood. By the liberal use of quinine and spirits nitrous ether, counter-irritation to the kidneys, a nourishing diet, and a plentiful supply of cold water, the case was brought to a successful issue at the end of eight days.

Remarks.—In these cases, as in all others which I have had in my charge, my main reliance has been placed on quinine. I have always used it in large doses in the treatment of this disease with the happiest effects. I have had opportunities of seeing many different plans of treatment tried in this disease, and I have never seen any cases do well which were treated without quinine. In some sections there exists a strong prejudice against the use of this noble remedy. This prejudice arises from the absurd idea that quinine aggravates, and even in some cases produces the hæmorrhage from the kidneys. I regret to say that some physicians, entertaining this same prejudice, eschew quinine in the treatment of this disease, and employ such remedies as muriated tincture of iron, bi-carbonate of potash, etc., which, in my opinion, are worthless. I

have been told by some physicians that they had used quinine, but had accomplished no good with it. Upon making close inquiry as to their manner of giving it, I could easily account for their failure. It had been used too sparingly to develop the full effects of the drug.

ART. II.—CHLOROFORM IN PUERPERAL CONVULSIONS. By F. H. TUCKER, M. D., San Augustine, Texas.

March 5th, 1873, 10 o'clock P. M., was called, in company with my partner Dr. I. J. Roberts, to see Mrs. J. R. C., primapara. When we entered the room, found her with a terrible convulsion; attendants stated that it was the third convulsion in half an hour; examined, and found her in the second stage of labor; not making much progress, though tolerably forcible pains; decided to use forceps. Dr. R. returned to office to procure them. Patient seemed to be so quiet I partially withdrew the chloroform, when she had another terrible convulsion; pushed up chloroform again, when the pains became more expulsive, and at 1 o'clock A. M., March 6th, was delivered of a large, healthy child, without the use of forceps. Patient made as good and as quick a recovery as women generally do at such times.

June 19, 1873, 9 o'clock A. M., was called, in company with Dr. B. F. Sharp, of this place, to visit Mrs. C. H. C., primapara, at the same place of Mrs. J. R. C., and wife of the brother of Mrs. J. R. C.'s husband. She was eight months advanced in pregnancy; was taken forty minutes before we saw her with convulsions, and had them every fifteen minutes; bowels constipated; could give nothing by the mouth; used enema, which produced tolerably free evacuations of bowels; gave chloroform, but could not control convulsions, only put them off three or four hours. At 3 o'clock P. M. gave her hydrate chloral, grs. xxx.; brom. potass, grs. xxx., per rectum. Twenty

minutes to 4 o'clock succeeded in getting her to swallow chloral hydrate, grs. xxx.; continued the chloral in ten-grain doses every two hours. At 7 o'clock P. M. she had the last convulsion. At 2 o'clock A. M., June 20th, labor came on, and at 4 o'clock A. M. she was delivered of a living child; cried feebly, took some milk, passed urine and fæces, and died at 1 o'clock P. M. Discontinued chloral June 21st, and gave calomel and opium two or three days. Mrs. C. did not speak or recognize any one until June 22d, from which time she improved rapidly, and at the end of six months was quite well.

These were my first cases of puerperal eclampsia, and seemed a little strange to me that they should both occur at the same place, and wives of brothers.

A third case I treated last week with chloral entirely, and with the same happy result as above case. With my little experience, I am delighted with the effects of chloral.

ORIGINAL CORRESPONDENCE.

"Sit mihi Fas scribere audita."

MEMPHIS, TENN., Nov., 1873.

To the Medical Profession at Large:

In obedience to the resolution of the Convention of Physicians, lately assembled in this city, we undertake this address to your sympathy, with full assurance that its hallowed object will secure your cordial support.

But yesterday our community was as a house of mourning, and its wail of distress, arising from stricken hearts and desolate homes, smote the ear of the world with the horrors of our affliction. Those of our people who remained in the doomed city can alone appreciate the sad story of suffering seen and felt in our midst, when death thus held, for seven long weeks, its high carnival among us. Over the entire city death and

silence brooded. Its deserted streets, alike both day and night, scarce echoed a sound, save the mournful hearse-rattle as it hurried to the grave its load of dead, or the foot-falls of those ministers of mercy who lighted up the hours of darkness with their visits of charity. Silently and continually the pious labor of love was performed, and each rivaled the other in the patient discharge of a common humanity. When the shaft of death prostrated one, another with true Corsican spirit took his place, and the work of benevolence went fearlessly on, until under the favor of Heaven the disease was baffled and the reign of terror at an end. Each creed, sect, order and brotherhood had its heroes and its martyrs, and it is in commemoration of the deeds of both the living and the dead that our hearts should never suffer forgetfulness.

The faithful physician who survived the storm bears in his conscience its plaudits of duty done; but our seven Brothers, Williams, Freeman, Crone, Hatch, Kennon, Blount, and Minor, fallen at their post, martyrs to the cause of humanity, aye bright exemplars of professional honor and duty, sleep in their quiet graves, with more lasting glory than embalmed warriors in piles of storied marble. Our fallen Brothers, if they could be consulted, would doubtless wish no fitter burial than quiet interment in leafy Elmwood, but professional pride demands the honor of their perpetual commemoration, and we ask in this behalf that suitable stone be raised and carved for them. Their fame, the story of their heroism, belongs to the medical world, and our brethren throughout the broad land are respectfully requested to contribute something to this laudable end. Your contributions, however small, will aggregate a success of the enterprise.

Remittances may be made to either member of the Committee.

Richard H. Taylor, M. D., 44 North Court St.
F. L. Sim, M. D., 115½ Beale St.
R. W. Mitchell, M. D., 275 Main St.

Note.—This letter is published with pleasure, in order that the physicians of Memphis may be aided in accomplishing their noble and laudable object.—Ed.

CAMERON, MILAN CO., TEXAS, 1873.

Dr. E. S. Gaillard:

Dear Sir,—I was called a few days ago to a case in consultation with Dr. Powell, said to have been stung by some poisonous insect, supposed a spider, about eighteen hours previously. I was urged to make all haste, as the patient was supposed to be dying. She was a married lady, aged about twenty-five, and had been, up to that time, in good health and vigor. I found her surrounded by fifteen or twenty of her relatives and neighbors, all manifesting extreme anxiety, and she making great and incessants complaints of pain. She awoke in the night previous with a sharp pain in the popliteal space, but called no one's attention to it till having risen and gone about her household duties. The pain increased till her leg was contracted so that she was unable to walk. She called for assistance to bed, and had been ever since suffering severe pains, not, however, confined to the first seat, but migratory and of short duration in any place. Dr. P. was called as soon as light of day appeared, and administered by the mouth morphine and chloral till she had got one and a quarter grains of the former, and sixty of the latter (in doses of fifteen grs. each). No spider or other venomous insect or reptile was seen, and she attributed the trouble to such cause solely from the suddenness of the attack and the character of the pain. No swelling or other appearance indicated the presence of poison, nor was the spot discolored, save by the tincture of iodine, which had been applied. I found her pulse about 100, soft and compressible, skin moist and of natural temperature, tongue but slightly furred, countenance natural, except when expressing some twinge of pain. Having had no alvine evacuation during the day, she had been given several doses of purgative medicines, castor oil amongst them, without effect, save nausea and occasional retching and vomiting. I diagnosed malarial neuralgia, directed copious enemas of warm water to bring away the contents of the bowels; administered hypodermically one-quarter grain sulph. morphine, and soon after gave twenty-five grains

bromide potassium, which, having put her to sleep, I left, directing five-grain doses quinine to be given every two hours during the next and the day after, with twenty-five or thirty grains of chloral as often as necessary to produce quietude and sufficient sleep. I heard in two or three days that she was up and visiting in the neighborhood.

D. W. Brodnax, M. D.

Minden, La., October 5, 1873.

Dr. E. S. Gaillard:

Dear Sir,—As most surgical operations of a grave character are of more or less statistical importance to the Medical Profession, I will add one more to the list of successful operations for strangulated hernia.

On the 18th July I was called to Mr. T. C., who, on the evening previous, while vomiting, was suddenly and painfully reminded that he had a very large scrotal hernia. The tumor was nearly or quite as large as my two fists together, and glistening with extreme tension. I, with the aisistance of Dr. Bacon, who had been called in, used every means that *taxis* afforded without reduction. The next day I returned with Dr. Hamilton, who tried his hand at reduction without success, as I had anticipated. So the next best thing was herniotomy, which I proceeded to perform with the valuable assistance of the above-mentioned gentlemen. On reaching the hernial sack to *my*, and I might say *our* surprise, we found a large mass of omentum, very much congested and very difficult to return, on account of its size, instead of the intestine, as was supposed. With some difficulty I enlarged the ring, cutting upward for obvious reasons, and had to enlarge the opening more than I desired to do, on account of the size of the mass to be returned. Having returned the mass as gently as possible, I closed the three-inch incision with interrupted sutures. The patient reacted very promptly from the effects of the anæsthetic (chloroform and ether equal parts). The bowels were locked up with opium for eight days, and cold-water dressing constantly ap-

plied, and he recovered with but a single untoward circumstance—viz., the inflammation and suppuration of the inguinal glands of the same side, some days after the operation.

The point of interest in this case, and I presume in all such cases, is the difficulty in diagnosing the contents of the tumor, as in the case above it presented every appearance to sight and touch of a large knuckle of intestine completely inflated with gas.

I do not recollect ever having seen in books the differential diagnosis between omental and intestinal hernia.

Very respectfully,

J. P. Shultz, M. D.

St. Louis, October 28, 1873.

Dr. E. S. Gaillard:

Dear Doctor,—I saw an article in this month's number of your Journal on ice in the treatment of neuralgia, and as I have had occasion to use it with the happiest results, I thought I would inform you of the fact.

To give a résumé of the case: I was called in October 26th to see Mr. B., who was suffering from the most severe attack of cranial neuralgia I ever saw; confined principally to the temples. He has suffered from it for several years. When I saw him, he was walking the floor in agony, unable to lie down, for when he did so, the pain seemed to be greatly augmented. I gave him two injections of Megendie's solution of morphia, in either side of the neck; the first of eight minims; the second of five, neither of which seemed to give any apparent relief. I then recollected the ice treatment recommended in your Journal, so I concluded to give it a trial. I ordered the ice in pieces the size of my hand, and after wrapping a piece in a towel, I applied it to one side of the head and then to the other, not keeping it on too long, but sometimes gently stroking the part with it. Its application seemed to give almost instantaneous relief; and in the course of half an hour, through the soothing influence of the morphia, and the benumbing effect of the ice, he

went off in a quiet slumber. He awoke several times during the night, and when he did so, he immediately called for the ice, seeming to be conscious of its good effect. He awoke the next morning with the pain entirely gone; but feeling very much prostrated from the great suffering he had undergone.

If any of your readers feel inclined to try this treatment, I hope they will have as gratifying results as I have had. Aconite ointment has long been known as a remedy for neuralgia for its benumbing effect, and why should not ice, which possesses this quality to a greater degree than aconite, give equally good if not better results?

Respectfully, your friend,

T. J. Clay, M. D.

Lake Providence, La., 1873.

Dr. E. S. Gaillard:

Dear Sir,—I had a case of congestive fever a few days ago in which there was such severe irritability of the alimentary canal from the oral to anal extremities, that medication in either way was impossible. I tried a quinine bolus per vaginam, which produced the desired result with no unpleasant accompaniment. Used grs. xl. to the bolus pro re nata.

I simply desire to call attention to this mode of administering quinia.

Yours truly,

W. D. Bell, M. D.

St. Louis, Mo., October 25, 1873.

A New Specialty.

Dr. E. S. Gaillard:

Dear Sir,—I am negotiating with the St. Louis Fair Association for the St. Louis Fair Grounds (the largest in the world) for an infirmary to treat patients having an umbilicus.

Please say that I wish each member of the Profession to send me a patient that has *an umbilicus*.

Yours,

George Sumrall, M. D.

PROCEEDINGS OF SOCIETIES.

"Etsi non prosunt singula, juncta juvant."

Kentucky State Medical Society.

Note.—At the last meeting of this Society the President, Dr. Lewis Rogers, of Louisville, placed on record many facts of value to the whole Profession of this country. The following are some of the most interesting.—Ed.

In 1798 "Transylvania Seminary" and the "Kentucky Academy" were united under one board of trustees, with the name of "Transylvania University," and in 1799 law and medical departments were added to the academical. Dr. Sam'l Brown was the first professor of medicine in Transylvania, and the *first* in the West. Dr. Francis Ridgely was appointed a professor in the University shortly after Dr. Brown, and was the *first* to deliver a course of medical lectures in the West. From 1799 to 1817 various appointments were made in the medical department, and partial courses of lectures were delivered. During this interval, among the locally-distinguished men who were appointed to professorships, none were more remarkable than Dr. Joseph Buchanan.

In 1817 a full course was given in Transylvania to a class of twenty pupils, and in the spring of 1818 the degree of M. D. was conferred for the *first* time in the West. John Lawson McCullough, of Lexington, was the *first* graduate in medicine in the Valley of the Mississippi. History thus assigns to Kentucky the honor of inaugurating the teaching of scientific medicine in the West.

Ranck's "History of Lexington" states "that vaccination had been introduced for several years in Lexington by Dr. Samuel Brown, of Transylvania, when the first attempts at it were being made in New York and Philadelphia. Up to 1802 he had vaccinated upward of five hundred persons in Kentucky." This invaluable discovery was announced by Jenner in 1798, and we find it successfully introduced into the backwoods of the West, by Kentucky enterprise, before 1802.

The Kine-pock Institution of New York was established in 1802.

The Eastern Lunatic Asylum has long enjoyed a distinguished place among institutions of the kind in this country; it was founded in 1816, under the name of the "Fayette Asylum." It was the *first* ever established in the western country, and the *second* State Asylum opened in the United States.

In connection with the history of medicine pertaining to Lexington, Dr. B. W. Dudley must ever occupy a conspicuous place. Distinguished in every branch of surgery, he was particularly eminent, as we all know, as a lithotomist. If not the first surgeon to perform this operation in Kentucky and the West, he was the first lithotomist in the number and successful results of his cases of the period in which he lived. His fame was coëxtensive with surgical literature.

If Kentucky had conferred no other benefaction upon mankind, the operation of ovariotomy performed for the *first* time by Dr. Ephraim McDowell, of Danville, in 1809, would entitle her to immortal honor. I believe that no one now denies to Dr. McDowell the originality of this heroic surgical achievement. Every surgeon in this country concedes it. In a conversation which I had, in 1865, with a number of eminent surgeons of Great Britain, among whom may be mentioned Mr. Spencer Wells, Mr. Baker Brown, and Sir James Syme, no one had any reserve on this subject except Mr. Syme. While he did not deny the claim of Dr. McDowell, he did not admit it. It is not a little amusing sometimes to notice with what reluctance European writers recognize the great works of American surgeons and physicians. In a recent article in the "Edinburgh Review" upon the progress of medicine and surgery, the operation of ovariotomy is fully discussed without the mention of Dr. McDowell. Mr. Spencer Wells is made the hero of the operation.

The value of this operation can be better estimated by the statistics of eminent specialists. It is to be viewed as a remedy for a disease of utter hopelessness, if permitted to pursue an

undisturbed career. Medicines have no influence over it. Though a few may live many dreary years, the average duration of ovarian tumors is from two to three years. Dr. McDowell operated thirteen times, as far as can be ascertained. He preserved the lives of six out of seven of his first patients. How many of the other cases were successful is not known, though it is certain that several were saved. Up to June last, Mr. Well's ovariotomies numbered 500, with 128 deaths. From March, 1870, to April, 1871, he had a succession of 32 cases in private practice without one death. Dr. Keith, of Edinburgh, up to July, 1872, had operated 146 times, with only 26 deaths. Dr. W. L. Atlee, of Philadelphia, has operated 300 times. Mr. Clay, of Manchester, up to December, 1871, had operated 250 times, with 182 successes. The results may be tabulated, so as to be seen more clearly:

Spencer Wells, -	73.25 per cent.	Kimball, - -	66.11 per cent.
Clay, - - -	72.80 "	Dunlap, - -	80.00 "
W. L. Atlee, -	71.00 "	Peaslee, - -	67.85 "
Bradford, - -	90.00 "	Thomas, - -	66.66 "

Keith has attained the highest success yet achieved in Europe, having saved 81 of his first 100 cases, and 30 of his next 36 cases. In the United States the general average is 63 per cent., in Great Britain 60, in France 50, in Germany 41.66. Spencer Wells thinks the average will yet be 90 per cent. of cases in private practice, without excluding those extreme cases in which the operation is performed as a forlorn hope.

My purpose in presenting these details is to call attention to the fact that Dr. Taylor Rradford, of Augusta, Ky., has *already* attained the 90 per cent. success which Wells thinks *may be* ultimately attained. In Kentucky, where the operation was first performed, the *highest* success has been reached.

Peaslee presents the great benefits conferred by ovariotomy in the following words: "It may be shown that in the United States and Great Britain alone ovariotomy has, within the last thirty years, directly contributed more than thirty thousand

years of active life to woman, all of which would have been lost had ovariotomy never been performed."

The Institution for Deaf Mutes, in Danville, Ky., was founded in 1823. It was the first institution of the kind established in the West. It followed closely upon those of Hartford, New York, and Philadelphia. Mr. Jacobs, so long its Superintendent, has made it known throughout the civilized world. The results attained in the education of deaf mutes are astonishing. They no longer speak by a manual alphabet or manual signs only, but are trained to utter thoughts in articulate sounds wonderfully perfect.

Dr. Alban Goldsmith was an assistant to Dr. McDowell in several of his ovariotomies, and operated himself one or more times. He visited Europe at the time that Civiale was attracting great attention to his original operation of lithotripsy. Dr. Goldsmith, under the teachings of this master, perfected himself in this specialty; and, returning to his home in Kentucky, operated on a gentleman in Lincoln county in 1829, the *first* operation of lithotripsy ever performed in Kentucky or in the United States.

Dr. Gross, in his report on Kentucky Surgery, made to this Society in 1852, remarks: "In the treatment of hernia Kentucky may justly claim the credit of having effected one most valuable improvement. The truss invented by Mr. Stagner, and afterwards modified by Dr. Hood, has acquired a world-wide celebrity. The value of the invention of Stagner and Hood can be fully appreciated by those only who are familiar with the nature and treatment of hernia, and with the state of our knowledge thereof prior to their time."

In the same report Dr. Gross records, "that some years ago Dr. Bowman, of Harrodsburg, showed me an instrument for injecting the parts immediately around the abdominal canals and apertures with a weak solution of iodine and other articles. It was constructed upon the principles of an ordinary syringe, with an extremely delicate nozzle, intended to be introduced through a small opening in the skin. The instrument was suc-

cessfully used in several cases." We here find the hypodermic syringe foreshadowed, if not actually invented. When Wood published his first papers on the subject of hypodermic medication I carried out the practice, with the syringe having a delicately-curved nozzle used by dentists, in the treatment of an obstinate case of lumbago. Dr. S. Brandeis, of Louisville, imported the first hypodermic syringe ever used in Kentucky, as he also did, through me, in 1862, the first laryngoscope.

The Louisville Marine Hospital was founded in 1817, and was among the first of the great public charities in the Valley for sick and disabled marines.

Professor Henry M. Bullitt, of the Louisville Medical College, was the first physician in Kentucky, as far as I am informed, to carry the stethoscope into the daily study of his cases.

In 1838 Dr. Charles Caldwell delivered the first clinical lectures of the University of Louisville in the wards of the Marine Hospital. I was his clinical assistant. In 1839 the *first* clinical amphitheater ever founded in the West was attached to this hospital.

Dr. Samuel L. Metcalfe, who died in Philadelphia in 1856, had a scientific character of which Kentucky may well be proud. Though known to many of the older physicians, he is possibly unknown to some of the junior members of the Profession. In 1833 Dr. Metcalfe published, at New York, a treatise, entitled "A New Theory of Terrestrial Magnetism," containing speculations of a remarkable character, and contending for the identity, in certain relations, of heat, electricity, and magnetism. In it were the germs of the great philosophical theory called "the correlation of forces," now received by the scientific world. This book was reviewed by Dr. T. S. Bell, in the "Louisville Journal," shortly after it was published, and pronounced the first work of its kind on the subject.

In 1838 this work was expanded into a noble treatise, entitled "Caloric—its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature." Dr. Metcalfe took the manu-

script to London and endeavored to find a publisher. One was at last found, who agreed to publish it provided the author would permit him to submit the manuscript to the inspection and approval of a scientific reader employed for such purposes. The manuscript was kept for some weeks, and after many calls Dr. Metcalfe succeeded in recovering it, with the information that the judgment of the reader was unfavorable. Professor J. B. Flint was in London at the time, purchasing the library of the Medical Department of the University of Louisville, and to him Dr. Metcalfe communicated these facts; with the additional statement that he had ascertained beyond a doubt that Michael Faraday was the reader to whom his manuscript had been submitted. The doctrine of "the correlation of forces," which forms a conspicuous element of the fame of Faraday, was clearly and cogently taught in this new work of the Kentucky philosopher; and prior to the time that Dr. Metcalfe's manuscript was perused by him he had never taught anything of the kind. In 1843 Dr. Metcalfe published his treatise in two large volumes. It was received in Europe with an unusual amount of favor.

Dr. Metcalfe resided near Simpsonville, Shelby county, in Kentucky. The State, and especially the medical men, have abundant reason to cherish his well-earned fame. His reputation was so firmly established in Europe that he was importuned to become a candidate for the Gregorian Chair in the University of Edinburgh, which he declined.

In January, 1843, Dr. William A. McDowell, a cousin of the great ovariotomist, and one of his aids in the performance of his operations, published an octavo volume of two hundred and sixty-nine pages, entitled "A Demonstration of the Curability of Pulmonary Consumption in all its Stages." Dr. McDowell removed to Louisville some years anterior to this date, with a name and prestige which soon won for him an excellent practice in all the branches of medicine. Pulmonary consumption was one of his favorite subjects, and he soon put forth the claim of unusual success in the treatment of this disease. Such un-

usual results were announced as to excite in the minds of his professional friends an unjust suspicion of charlatanry. When his book appeared it was received not only with incredulity, but with severe sneering criticisms. Time, however, has done justice to Dr. McDowell's character and claims. The work, though defective in literary merit, crude in many of its ideas, and asserting powers for many medicines which they do not possess, contained not only the germ, but the substance fully developed of the therapeutics of consumption now considered orthodox. He states that he first derived the views which he indicates, modified by what he denominates the *antipodal* plan, from Dr. Joseph Parrish, of Philadelphia. To quote the language of his preface: "We concluded upon combining his theory with an antipodal plan which we ourselves had determined to adopt, consisting of a course of dietetics and regimen calculated to produce acquired gout; for we regarded gout as the extreme athletic or tonic morbid condition, consumption as the extreme atonic." Though this mode of presenting the subject be crude and coarse, when compared with our more refined and seemingly more recondite rationale of treatment, the same great analeptic truth underlies both. I have no doubt that Dr. McDowell cured many cases of genuine phthisis pulmonalis, and prolonged the lives of many more, as the tonic and restorative plan, now universally adopted, is well known to do. His book was in advance of the times in this country certainly, and I do not know that a formal presentation of the subject had then been made in Europe. Dr. J. Hughes Bennett, of Edinburgh, and other distinguished co-workers, were beginning to inculcate very strongly the same method of treatment. but had not given a published form to their views. This book of Dr. McDowell's has not secured the place in the literature of pulmonary consumption to which its intrinsic merit entitles it.

The Kentucky Institution for the Blind was incorporated in 1842. The movement for such a school in our State was inaugurated by Dr. S. G. Howe, of Massachusetts, who had so successfully begun the beneficent work in the latter State. Ken-

tucky was among the first to follow the example of the "Old Bay State."

Kentucky was one of the first States of the West, probably the very first, to comprehend the incalculable value of a careful registration of the marriages, births, and deaths of her citizens.

In 1854 T. G. Richardson, M. D., then Demonstrator of Anatomy in the Medical Department of the University of Louisville, published a work entitled "Elements of Human Anatomy—General, Descriptive, and Practical." This was the first and only systematic treatise of the kind ever published in the Valley of the Mississippi. It consisted of one volume octavo, 734 pages and 269 illustrations, with several marked improvements in the arrangement of its subjects, and with the unique plan of "substituting English for Latin terms wherever this appeared to be practicable and judicious." Dr. Richardson subsequently became a professor in one of the schools of Philadelphia, and is now a distinguished professor and practitioner of surgery in New Orleans, La.

"Gross's Pathological Anatomy," the first systematic work on the subject ever published in the United States, illustrated by colored engravings and 259 wood-cuts, pp. 822, was issued in 1839, while Dr. Gross was Professor of Surgery in the Medical Institute of Louisville. A work on the "Surgical Diseases of the Air-passages" and this great work on Surgery by the same distinguished author constitute no small part of the medical fame of Kentucky.

In October, 1846, ether was first used by inhalation as an anæsthetic. In the winter or spring of 1847 Dr. Joshua B. Flint administered it for the first time in Kentucky, and possibly in the West, in an amputation of a lower limb performed by him in the presence of a number of professional friends. I was present. The ether was then called "letheon," and administered by the aid of a complicated inhaler.

Chloroform was first brought forward by Sir James Y. Simpson, as a substitute for ether, in November, 1847. It was used

for the first time in midwifery in the city of Louisville, and, as far as is known, in the State of Kentucky, by Professor Henry Miller, on the 20th of February, 1848.

Prof. S. D. Gross was the first surgeon in Louisville to use chloroform as an anæsthetic in surgery. He operated upon a servant under its influence in the family of Thomas P. Smith, removing a large tumor.

Professor Miller was a pioneer in several other important branches of his specialty. In an able and very candid paper, denominated "Retrospect of Uterine Pathology and Therapeutics in the United States, especially in regard to Intra-uterine Medication in Chronic Internal Metritis," published by Dr. Miller in 1871, in the "Richmond and Louisville Medical Journal," it is certainly established that he was the first in the West to use the speculum uteri systematically in the treatment of diseases of the os and cervix uteri. This was as early as 1835, a period when the speculum was almost unknown practically to the Profession in any part of the United States. The first speculum was brought to Louisville by Dr. Allan P. Elston, a distinguished young physician, who after a residence in Europe for several years returned to Louisville and resumed his professional labors. Failing health compelled him to retire after a short but honorable career. Dr. Miller was present when Dr. Elston examined one of his patients in the Work-house Hospital, and becoming enamored of the speculum, forthwith devoted himself to this interesting branch of surgery. It is needless for me to tell this audience with what distinguished results.

For a time the treatment by the aid of the speculum was limited to the os and cervix uteri. In 1843 Dr. Miller extended this local treatment still deeper, and made applications to the cavity of the organ. In the paper above mentioned he proves conclusively that he was in advance of every one else in the United States in intra-medication. Kentucky justly claims priority in both forms of uterine therapeutics.

Dr. Miller is the author of the first systematic work upon

midwifery ever published in the West, a work which ranks in original thought and practical value among the best ever published.

Kentucky has been ever prompt to obey the requirements of philanthropy. Under the wise counsels and benevolent influence of Robert W. Scott, the Legislature, in 1860, founded the Kentucky Institution for the Education of Feeble-minded Children and Idiots. This is the only institution of the kind south of the Ohio river. There are several in the North, which have undoubtedly achieved surprising results in elevating the mental status of these unfortunate beings.

The Louisville College of Pharmacy was established in August, 1870. It has organized a school of pharmacy, with efficient professors, to teach the theory and practice of pharmacy, materia medica, chemistry, and the collateral sciences.

On the 28th of March, 1872, the Legislature of Kentucky passed an act incorporating the "Central Kentucky Inebriate Asylum." This asylum is intended for the medical treatment, control and restoration of the inebriate.

The establishment of a new school in 1837, and of several others at later dates, led to important results in the history of Kentucky medicine.

Who that ever saw Dr. Charles Caldwell can fail to have a living resemblance of him? He looked a very monarch, as, with sceptre waving in his hand, he moved majestically along. Dr. Caldwell was largely instrumental in carrying the Medical Department of Transylvania to its high point of prosperity. He was one of the great levers by which the School of Louisville was elevated to a still loftier position. He did not desire the great eclât which great surgical feats elicit.

Dr. Daniel Drake, though claiming Cincinnati as his home, was really a Kentucky physician, having passed the most active years of his life in our State, and achieved his great fame as a teacher and writer while connected with our schools. It is unnecessary to detail his brilliant medical history. It is known to every one. I wish to mention the single honorable fact that

he was the *first* physician of the West ever called to fill an important chair in an eastern medical school. In 1830 he was appointed Professor of Theory and Practice of Medicine in the Jefferson Medical College of Philadelphia. Dr. S. D. Gross was appointed to the chair of Surgery in the same school at a later day, and, as far as I now remember, was the second western man thus distinguished.

The medical journalism of Kentucky has always been of a high order. Though commenced at a later date than that of her sister State of Ohio, Kentucky was in advance of all other States of the Valley. The "Transylvania Journal of Medicine and the Associate Sciences" was the first journal published in Kentucky. It dates from 1829, and continued to be the leading journal until is close, in 1838. Its successive editors were Professors John Esten Cooke, Charles Wilkins Short, Lunsford P. Yandell, and Robert Peter. The next was the "Louisville Journal of Medicine," in 1838, edited by Professors Henry Miller, L. P. Yandell, and Dr. T. S. Bell. This had a brief existence. Then came the "Western Journal of Medicine and Surgery," edited at first by Professors Drake and Yandell, and then by Professor Yandell and Dr. T. S. Bell. It lived from 1840 to 1855. The "Western and Southern Medical Recorder" was published by Dr. James Conquest Cross, in Lexington, in 1841–2. The "Kentucky Medical Recorder," a continuation of the "Transylvania Journal," was edited by Professors Henry M. Bullitt and Robert J. Breckinridge, in 1851–2, in Louisville. Dr. J. L. Frazee edited a semi-monthly journal, called the "Louisville Medical Gazette," in 1859. Drs. Bemiss and Benson published the "Louisville Medical News" in 1859–60. The "Louisville Review," edited by Gross and Richardson, in 1856, and the "Louisville Medical Journal," by Dr. Colescott, in 1860, were short-lived. The "Sanitary Report" was published, semi-monthly, by the United States Sanitary Commission, in Louisville, in 1863–4.

The two journals which now represent this branch of medicine in Kentucky, the "American Practitioner" and the

"Richmond and Louisville Medical Journal," rank among the ablest of this country.

In a community which has founded and fostered so many great medical institutions, true science would necessarily always command respect and confidence. In no part of this country have the many forms of quackery met with so little encouragement. Every where, of course, will be found ignorance, credulity, and the other weak elements upon which medical fungi grow; but Kentucky may be justly proud of her remarkable exemption from them.

CHEMICAL AND PHARMACEUTICAL.

"Diruit, ædificat, mutat."---Hor.

On the Administration of Castor Oil. By E. Gregory.—Castor oil is indisputably nauseous and unpleasant to take, so much so that some patients can not be induced to swallow it, by any device or on any consideration. At the same time its qualities are that in some disturbed states of the system no other purgative can be substituted with safety. On this account a great deal of ingenuity has been exercised in endeavoring to devise means by which the dose may be swallowed without tasting it. So far as I know, success in this attempt has been only partial, and I fear the difficulties in the way are too great to be entirely overcome. Efforts seem to have been made in three directions: First, to enclose the oil in a tasteless envelop, such as the hard and soft castor oil capsules. To these there seem to be two objections. One, from the number of capsules necessary to be taken for a purgative dose; the other from the fact that most of the makers, in their efforts to reduce the size of the dose, have been tempted to add a foreign ingredient, such as podophyllin, or croton oil, both of which are of so drastic a nature as to make it unwise to give them to a delicate patient. The second class of efforts have been made prin-

cipally by medical men and nurses, and have consisted in floating the oil on some vehicle, such as tea, coffee, punch, wine, beer, etc., etc. The result is that the patient, in spite of the most careful management, finds some of the oil sticking to his mouth, and sinks back in the bed with the conviction impressed on his mind that oil is abominable stuff. The most successful vehicle of the kind that has come under my observation is flaxseed tea, well sweetened and flavored with any agreeable aromatic. If the oil be floated on this, and before the dose is taken, the lungs be thoroughly exhausted, so that the whole can be drunk with a deep inspiration, the taste is very little noticed. The third direction in which inventors have exercised their ingenuity in endeavoring to cover up and disguise the unwelcome flavor is by adding various ingredients to the oil, and by making it into an emulsion. Of this class are Copland's Sweet Castor Oil, which answers admirably for children, but for adults has the disadvantage of retaining its natural appearance, and of being too thick and clammy for reasonably pleasant use. Wilson's Castor Oil Emulsion has the taste well disguised, and has a little less of the clamminess, but is open to the objection of being too thick, and there is just the suspicion in my mind that the strength may have been fortified by the addition of some more powerful purgative.

In the May number, p. 357, of the "Journal" is an article by Mr. Herbert G. Rogerson,* in which he gives a formula adapted to emulsify most oils and balsams. It certainly makes a very nice-looking preparation, having a white, pearly lustre, and with the taste and smell of the active ingredient very well disguised. But it is too thick and must be gulped down.

For some twelve or fourteen years past I have used the following formula for a castor oil draught which has proved very acceptable to adults who could not get down the pure oil. For children it does not answer so well, the dose of necessity being double that of the oil:

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* American Journal of Pharmacy, April, 1873, p. 174.

℞.—Ol. Ricini, ℥j.;
Mucil. Acaciæ, ℥ij.
Shake well together, then add
Syr. Simp., ℥ij.

Shake again, then flavor with Spts. Menthæ Pip., or according to taste, and make up two ounces with water. This mixture can scarcely be called an emulsion, but it mixes well on vigorous shaking. The taste is well disguised; it is thin enough to be taken from a wine-glass, and it leaves no oil sticking around the mouth. I have lately obtained still better results from the following formula:

℞.—Ol. Ricini, ℥j.;
Ol. Anisi, gtt. x.;
Chloroform, gtt. x.
Shake well together, then add
Mucil. Acaciæ, ℥ss.

Shake well and make up to two ounces with water. I know not whether this may be considered an infringement on Mr. Copland's patent, but it is a very nice-looking and palatable preparation, and does not separate so speedily as the last.—*Pharm.* (Canadian) *Jour.*

Bitter Wine of Iron. By Charles L. Mitchell.—This preparation, so much in demand amongst practitioners at the present time, is, when rightly made, a most elegant tonic and stimulant. As often sold, however, it is of an inky color and taste, and quite repulsive to the patient. Taking advantage of the property which the hydrated sesquioxide of iron possesses of removing the tannic acid from the different vegetable astringents and tonics, I have succeeded in making a preparation which is handsome, efficient, and pleasant to the taste. The formula is as follows:

Grd. Cinchona Calisaya, 192 grs.; Grd. Gentian Root, 128 grs.; Soluble Citrate Iron, 192 grs.; Sherry Wine, 13 f. ozs.; Brandy, 1 f. ozs.; Alcohol, 1 fl. oz.; Oil Orange, 12 minims;

Sugar, 2 ozs.; Solution Tersulphate of Iron, 2 f. ozs.; Water of Ammonia, q. s.

Dissolve the oil of orange in the alcohol, and mix with the sherry wine and brandy. With this menstruüm percolate the ground drugs, recovering 15 f. ozs. tincture by pouring on water. Dilute the iron solution with twice its bulk of water, and add ammonia until in slight excess. Wash the precipitate until the washings are tasteless, and drain thoroughly. Mix this precipitate with the percolated tincture, and allow to stand, shaking frequently, until a portion filtered off has a light yellow color and does not blacken with tincture of chloride of iron. Then filter, dissolve the citrate of iron and the sugar, and bring up the measure with a little water to 16 f. ozs.

Each fluid ounce contains 12 grs. cinchona calisaya, 8 grs. gentian root, and 12 grs. of soluble citrate of iron.—*American Jour. of Pharm.*

Professor Parkes on Cast-Iron Stoves.—Professor Parkes, in his "Manual of Hygiene," just republished in this country by Lindsay and Blakiston, has a paragraph on cast-iron stoves, which we will quote in full in a succinct statement of our present knowledge on the subject, made by one who is recognized as an authority in all matters of sanitary science:

"Attention has been lately directed, both in France and America, to the fact of the comparative ease with which the gases pass through red hot cast-iron. Mr. Graham has shown that iron heated to redness will absorb 4.15 times its volume of carbonic oxide; and the experiments of MM. Deville and Troost, made at the request of General Morin, prove that in a cast-iron stove heated with common coal, there passed through the metal in ninety-two hours 589 cubic centimetres of carbonic oxide, or from .0141 to .132 per cent. of the air which was slowly passed over the hot surface. In America, Dr. Derby has directed particular attention to this subject, and has adduced very strong reasons for believing that the decidedly injurious effects produced by some of the plans for warming houses, especially by

air passing over a cast-iron furnace heated with anthracite, are due to an admixture of carbonic oxide. Professor Coulier, of the Val de Grâce, has contended that the amount of carbonic oxide passing through, in the experiments of Deville and Troost, is really so small that if mixed with the air of a room which is fairly ventilated, it would be quite inocuous; and he believes (from direct experiment) that the headache and oppressive feeling produced by these iron stoves are really owing, as was formerly believed, to the relative dryness of the air. But the evidence is adverse to this now. The gas passes with much greater difficulty through wrought iron, or through stoves lined with fire-clay."—*Boston Journal Chemistry.*

Vehicle for the Administration of Chloroform.—A French medical journal remarks that the best course is to dissolve the chloroform in glycerin (1 : 3), which is effected with tolerable facility, and gives a very clear solution, pleasant to the taste, and with a strong odor of chloroform. This solution can be mixed in all proportions with water, without the occurrence of any precipitation, though the odor is distinctly perceptible. In forming the mixture, it is well to add the chloroform slowly and to mingle the two thoroughly. It should be left at rest for twenty-four hours; at the expiration of this period a portion of the chloroform will be found to have collected at the bottom of the vase; this should be separated and mixed with an additional part of glycerin, when no further separation will occur. This mixture may be kept for some time without any loss of chloroform by evaporation.—*Boston Journal of Chemistry.*

Embalming at Vienna.—In the Exhibition there were several specimens of the embalming of parts of the human body. Those exhibited by Dr. Marini, of Naples, were particularly to be noted. One of these was a large round table made of muscles, sinews, etc., of a dark brown color, with a handsome polish. This practitioner is reported to have been specially successful. Among his other exploits, he petrified Thalberg, and the widow is said to keep the corpse in her drawing-room.

He also embalmed Mazzini, and so well that some of the more economical admirers of that statesman urged that the body should be set up in Rome as a statue, and thus save expense. The London "Chemist and Druggist" remarks, that a collection of petrified specimens of kings, queens, philanthropists, murderers, poets, etc., would be a capital speculation to start in London, and leave Madame Tussaud's wax-work hopelessly behind.—*Boston Jour. Chem.*

The Effect of Sunlight on Flour.—Recent experiments have shown that the inferior quality of certain kinds of wheat and rye flour is frequently due to the action of sunlight, by which, even when in bags or barrels, the gluten suffers a metamorphosis similar to that occasioned by heating in the mill. The tendency thus imparted to it to become lumpy, and to form dough without toughness, is similar to that of flour from moist grain, or of flour when it is too fresh, or made from grain ground too early, or when adulterated with barley meal. Such flour can be improved by keeping for some weeks.—*Bost. Jour. Chem.*

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

"Judex damnatur cum nocens absolvitur."

PRINCIPLES AND PRACTICE OF SURGERY. By FRANK HASTINGS HAMILTON, A. M., M. D., LL.D., Professor of the Practice of Surgery, with Operations, and of Clinical Surgery in Bellevue Hospital Medical College, New York.

It is a just rule of the Medical Profession and Medical Press which forces every book written on medical subjects to be critically reviewed. In that way the value and reliability of every work presented on any subject may be properly appreciated by the mass of the Profession. It is also important that the reviewer should have carefully examined the book he reviews,

that he may do justice to its excellencies and deficiencies. If the volume reviewed does violence to facts, these should be critically pointed out and the false doctrines exposed; and if it contains actual facts in science, the examination should plainly indicate these, so that the practitioner may readily procure such a volume as will enable him to obtain correct medical facts in his efforts to contend with disease.

The reviewer, in the "Charleston Medical Journal," of "Hamilton's Principles and Practice of Surgery," plainly shows that the writer either failed to examine and understand the book, or was actuated by some unbecoming prejudice. I attribute his unjust criticism to the former. His errors and misstatements, which I will endeavor to point out will, I think, justify me in the opinion I have expressed. The criticisms of that reviewer are in part correct, but mostly unjust to Professor Hamilton, and calculated to disparage with the Profession a surgical work which, though not so perfect as it might be, is yet a practical work, containing what the author conscientiously believes to be true after a long experience in decidedly the best surgical field this side of the Atlantic.

Professor H. is rather brief in his comments on inflammation, its results and treatment. He has given too little attention to this important subject for a work purporting to embrace "a full understanding of all the subjects belonging properly to surgery." It is true that, in speaking of all wounds and injuries separately, he has briefly given their pathology; but had he given more space to the subject of inflammation, his book would have been more satisfactory to the Profession. His remarks upon cold as a direct sedative, and local stimulants indirect sedatives, are well timed and very interesting.

In the chapter treating of traumatic erysipelas, he remarks: "I have seen many cases of mild erysipelas brought to a speedy and favorable termination by the application of cloths moistened in tepid water." He used the same in hospital practice. His remarks on this treatment are somewhat peculiar to himself and interesting.

Professor H. claims to have first suggested skin transplantation for the cure of chronic ulcers in 1847, and that he first operated in January, 1854, an account of which was published in the "New York Journal" of that year. Mr. Reverdin, in December, 1868, read a paper before the Surgical Society of Paris, recommending the engrafting of minute detached portions of integument for the cure of old ulcers. I suppose no one questions the claim of Prof. H. to priority for the cure of ulceration in regard to skin grafting, and being the first to perform that operation. The reviewer in the "Charleston Medical Journal" does accord priority of the suggestion of skin transplantation to Professor Hamilton, but his manner of alluding to it does not indicate that he was actuated by motives which should influence an impartial critic. Every surgeon must recognize that the suggestion of skin grafting has been of much service in the practice of surgery, and is a highly valuable contribution to science. It is but just that Prof. Hamilton should receive due credit for having first recommended the operation.

Gangrene from Scorbutus.—Under this head he gives the particulars of nine interesting cases resulting from scorbutic condition of the blood. They were all United States soldiers in the late war, were from rural districts, and accustomed to an abundance of vegetables, fresh meat, and bread diet. The cause of the gangrene was the change to salt and fresh meat and hard-bread food. This condition was brought about within three months from the time they commenced using camp diet. They all recovered under the free use of vegetables and other anti-scorbutics. The report of these cases must prove interesting; at least I have seen no account of exactly similar ones.

For the most part, Prof. H. gives preference to well-waxed harness-makers' silk for sutures; however, in some rare and delicate operations, he acknowledges that the metallic suture may be preferable. He argues that well-waxed silk is more manageable and is as little irritating as metallic sutures. It is true that it is very fashionable with many surgeons, especially

those who make a specialty of female surgery, to reason that nothing but silver wire sutures should be used. Wells and Keith use silk sutures in the ovarian operation. The extensive experience of these two eminent surgeons is in keeping with that of Prof. H., and their experience in the use of sutures entitles them to high consideration by every surgeon. I am satisfied that most surgeons endorse Prof. Hamilton in his preferences for silken sutures.

His remarks on the use of the roller bandage are exceedingly practical. Any surgeon, in reading them, will be impressed with their truth. The rules laid down for the application of the roller are certainly correct. Any surgeon will be well paid in perusing them. He advises, in order to prevent too much constriction from the bandage, that a large mass of loose cotton be laid over the wound, then the roller be applied over that. "The elasticity of the cotton-batting is such that it will be found very difficult to strangulate the tissues underneath, while it possesses sufficient firmness to cause the necessary compression. By this means alone an almost complete immunity against accident is insured; but the immunity is made absolute if at the expiration of twelve, or twenty-four hours at most, the scissors are introduced beneath the outer margins of the dressings and they are carefully divided from each side to opposite the centre of the wound. Some blood is almost certain to have soaked into the dressings, and as the blood has by this time become dried, the dressings will usually retain their place even when thus freely cut, and they seldom fail to continue to maintain a considerable degree of pressure and support. If they are disposed to fall off, a single slight turn of the roller will suffice to keep them in position."

I have quoted the above lines exactly from Prof. Hamilton, because they strike me as being novel and eminently practical. He does not agree with Professor Lister in his high opinion of carbolic acid treatment of wounds. Many distinguished surgeons are with Prof. H. in that, but I am confident that the majority of practitioners of surgery think favor-

ably of the solution of carbolic acid in the treatment of wounds.

Prof. H. thinks that cleanliness is best secured by irrigation of the wound with warm water and soap. We agree that warm water with soap is a very useful and pleasant dressing, but would prefer carbolic acid in the water. I can not endorse Prof. Hamilton's opinion that greasy soap is a better application than the antiseptic carbolic acid.

He devotes six pages to the section on arrow wounds. It is well written, and no doubt contains facts, but it would have been better to have devoted less than half the space to this class of wounds, as they certainly possess very little interest to the general practitioner, for whom the book was intended.

In some cases of gun-shot wounds of the chest he advises the hermetically sealing of the wound: "First, in simple incised and punctured wounds of the chest; second, in all wounds made by round, smooth balls, or by small shot, where the missiles have not impinged upon or broken any portion of the bony parietes, and in which it can be rendered certain that no foreign substance remains in the tract of the wound; third, where under any circumstances the pleural cavity has been opened; fourth, where pulmonic hæmorrhage is very profuse; fifth, where it is ascertained that the impending suffocation is due to the presence of air in the pleural cavity, and not blood."

He states that he has seen a number of cases on the battle-field that could breathe easily only when the finger or a piece of cloth was introduced into the wound. In such cases as those above mentioned he would generally, though not always, advise the hermetic sealing of the wound. He states that Dr. B. Howard, late Assistant Surgeon in the United States Army, practiced hermetically closing chest wounds in all cases. His comments on this subject are interesting, and deserve the especial attention of the Profession.

In gun-shot wounds of the abdomen, Prof. Hamilton is positively opposed to probing the wounds. "The very attempt to find the wound in the intestines must insure the admission of air into the cavity of the peritoneum and the escape of fæcal

matter." The experience of ovariotomists does not sustain Professor Hamilton in his opinion of the danger of the contact of air to the serous cavities; but there would be danger from the introduction of the probe inducing the discharge of fæcal matter into the peritoneal cavity. I therefore never probe wounds of the intestines. In the treatment of wounds of this class he is eminently conservative, advises that the wound be dressed with a pledget of lint moistened with water, and that this should be kept in place by roller or adhesive strips. Perfect rest in the recumbent position is enjoined for twenty-four hours, no fluids or solids should be received into the stomach. He prefers opium to morphine to quiet the patient, as he says it is likely to occasion nausea. He prescribes from one-half to three-quarters of a grain of opium every four or six hours. Every surgeon of experience must know that such a dose is too small as a general rule for such cases. Instead of that amount, I would give from two to three grains every four or six hours, until rest and quiet are secured. I think it questionable whether solid opium as a general rule is less liable to produce nausea than morphine. His views as to the management of wounds of the abdomen are for the most part sound and practical.

In wounds of the bladder, Professor H. is opposed to keeping the catheter constantly in the bladder. He says it may occasionally be introduced, but in a very cautious manner. Reference is made to several interesting cases treated in this way successfully by himself and others. The old rule was in such wounds to keep a catheter constantly in the bladder. It strikes me that his views are correct in advising against that practice.

Prof. Hamilton has no faith in the vaunted specifics for serpent poisons and hydrophobia. His reliance is mostly upon prompt action by suction, cauterization and excision.

Chapter xii. gives an account of dissecting and autopsy wounds. He does not believe much in the danger from dissecting wounds. Autopsy wounds have proven very fatal, and his precautionary advice in making post-mortems is good.

Chapter xiii. relates to venereal diseases. Thorough ablu-

tion with warm water and soap after exposure to gonorrhœa is regarded as a prophylactic measure. Washing out the urethra three or four times a day with the same, or a weak solution of sulphate of zinc, will generally prevent the occurrence of the gonorrhœa. I regard this as good advice, and am satisfied it will produce good results. It is very important to keep the urethra well cleansed with repeated warm-water injections in the treatment of this disease. In the treatment of gonorrhœa in females no mention is made of applying astringent solutions through the speculum. This is established as the best manner of making such applications. In stubborn cases I can scarcely see how they can be otherwise relieved.

In speaking of syphilis, he advocates the doctrine of the dualists. In this he is fully sustained by Bumstead, Sigmund, and, with some qualifications, by the distinguished M. Ricord; but the other school has the majority of advocates among the syphilographers. As this point is still in dispute, it may be proved by the development of science that the school to which Professor Hamilton adheres is the correct one, and it may be otherwise. He favors the use of mercury in all the stages, unless the subject be strumous. Those who have given attention to this subject disagree with him in advising the use of mercury in primary syphilis only in exceptional cases. His views of mercury in the secondary stage are generally received, and there is no question but that the bichloride of mercury is serviceable in some cases of tertiary syphilis. He recommends the internal administration of mercury in hereditary syphilis. In this a large majority of the Profession will differ with him, preferring mercurial inunction, which is not so liable to derange the stomach and bowels as the internal administration of it.

In chapter xiv. he expresses a decided preference for the ligature over torsion, acupressure and crushing. He thinks that hæmorrhage and other difficulties would be more liable to follow torsion, acupressure or crushing, than the ligature. With the present advance in surgical science, it must be admitted that his cautious views in making a comparison between the advan-

tages of the ligature over the other modern means of controlling hæmorrhages is well founded. Due allowance should be made for the exaggerated reports in favor of torsion and crushing.

The remarks on the treatment of varicose veins, on page 193, are very interesting and somewhat peculiar, and the rules laid down for performing the operation are very plain.

Chapter XV.—Aneurism.—Under this head he devotes thirty-six pages to the anatomy, pathology and treatment. He has evidently given to this much study and investigation; does not think so highly of the treatment by pressure as some do; at least, is not yet willing to give it the preference over the ligature. He accredits Dr. Jonathan Knight, of New Haven, as having been the first to treat aneurism successfully by digital compression.

Chapters xvi. and xvii. are devoted to fractures and dislocations. His treatise on this subject, published in 1859, was then pronounced the best work of the kind known to the Profession. All the reviewers of his work on the "Principles and Practice of Surgery" have referred to his work on "Fractures and Dislocations" as the ablest in any language on that subject. As I am convinced, after an examination of this part of his surgery, that his opinions are entitled to the highest consideration by the Profession, I will but briefly allude to a few special points in those chapters: First, we will notice the account of a vulcanized inter-dental splint for fracture of the lower jaw, with plates for the same, invented by Norman Kingsley, a dentist of New York City. It has been used successfully in a number of cases in Bellevue Hospital. On page 302 is a description of his manner of treating fractures of the thigh in children. It consists of two long splints applied to each side of the body, united below the feet by a transverse piece. It must be a valuable dressing, as it so controls the child that it is prevented from turning about, as from their natural restlessness they are prone to do. With this dressing properly applied, the little patient can be moved about if necessary without much inconvenience.

In the chapter on amputations a very interesting account is given of guides and keys to points. There is something original and valuable in the suggestions on this subject. The guides are generally marked by some bony prominence, while the keys to the joints are some one or more of the ligaments. He has given to this much study and investigation, and has very much simplified all operations connected with joints. I am sure that an investigation of this chapter will prove valuable to surgeons. It seems to me that Professor H. has given too little attention to excisions of bones. It is time he has some good advice on this subject, but he does not give to this operation the position in modern surgery to which it is entitled. Many of the good results of resections from C. S. A. which have been published in the various medical journals and transactions of State societies in the South, have been omitted or ignored.

In April, 1872, I read a paper on Resections before the State Society of Kentucky, giving an account of forty-six cases collected, stating the condition of the limb from three to seven years after the operation, which would have enabled Professor H. to have made some practical deductions on this subject. I see it is characteristic of Professor H., as it has been with most northern medical authors since our late unpleasantness, to ignore, or at least pay no attention to the claims of southern physicians or surgeons. It can not be said, by way of apology, that those claims were not made known to the Profession, for many of the former Confederate surgeons have been somewhat energetic in publishing these facts in southern medical journals. For the sake of the true and noble science of medicine this is to be regretted, and it is to be hoped that these omissions will not be continued.

Professor H. does not believe that fractures of the femur are ever treated without some shortening. I give his position and spirited language: "To state the matter of fact very plainly, these men do not tell the truth." He is not partial as a general thing to the immovable dressings in the treatment of fractures, it is only in exceptional cases that he has resorted to them. The

reviewer in the "Charleston Medical Journal" misquotes him on this point, in saying that these dressings have proved eminently unsatisfactory. I give the correct quotation: "On the whole therefore, *with few exceptions*, all of these forms of dressings have been found by myself eminently unsatisfactory."

To some extent it has been my practice to use some form of the immovable dressings in the treatment of fractures; but there is some foundation for his objection to this treatment in all cases. The character of the fracture and idiosyncrasy of the patient makes it sometimes necessary to use a dressing that will allow the lint to be kept under constant vigilance.

In speaking of the best period for amputations, rather too much space is given. He says, "generally the first and second days are to be preferred." A rather extensive experience of four years in the C. S. A. satisfied me that when the amputation was not made within the first twenty-four hours, it was decidedly more successful to wait until the secondary period; this was also the experience of my medical friends from service in the same army. Under the same head there are more very valuable remarks on the treatment of shock.

The remarks and plates in the chapter on rhinoplasty for restoring the nose possess much interest, and also those on hair-lip and staphyloraphy. These chapters indicate much study and research, and contain some original views, and do their author credit.

The chapters devoted to hernia, if examined closely, will be found to be correct, and contain some sound views. His views are, if recent hernia be immediately replaced and kept in position by a properly applied truss in some cases, it will never occur again. I am satisfied that is correct, as I have treated several cases of recent hernias successfully with well-applied wooden-ball truss. Professor H. does not speak very highly of the various operations for the radical cure of hernia, thinks much allowance is to be made for the zealous advocates of those operations. By them they are only considered adapted "to the smallest, most recent, and least troublesome hernias. He agrees,

as do most surgeons, that many lives have been lost by the late resort to operative procedure in strangulated hernia. A careful study of this chapter will give much knowledge of the subject, which must possess interest to every surgeon. The old plan of ligature is preferred in the operation of hæmorrhoids.

Prof. Van Buren, of Bellevue College, who is acknowledged to be the best authority on diseases of the rectum in this country, gives decided preference to the ligature in the operation for the removal of hæmorrhoids. With the écraseur the surgeon can make a grander display and have a better foundation for a reputable fee. This was remarked to me by one of the most eminent surgeons in America. Preference is given from experience to the écraseur in amputations of the penis; it is regarded as much safer than the knife. Prof. H. thinks that gradual dilatation is the best and safest treatment for organic stricture of the urethra.

The patience and caution he advises is well founded and generally endorsed by surgeons. He sometimes takes weeks and months to overcome a stricture. Every surgeon, in treating stricture, should be impressed with proper patience and the very delicate manipulation of the instrument. There is no branch of surgery in which a surgeon can do more good with a proper knowledge and appreciation of the difficulties with which he has to contend. The positive injunction of Sir Henry Thompson should, in all cases of stricture, be observed—*i. e.*, in the use of the bougie, use *no force*. The Profession generally will not endorse his views against the use of some of the modern instruments for the treatment of stricture.

I am much surprised that so little attention is given to extravasation of urine; it is acknowledged that it produces violent and rapid results, but with all that, he barely refers to the subject. Those who have the book on their shelves for reference, will regret that he has treated this serious subject so lightly. No mention is made of that valuable instrument, M. Dieulafoy's aspirator. In connection with surgery of the bladder, this instrument has been favorably received by the Profession. While

the work contains some good advice on the surgery of the male genito-urinary organs, yet one having much to do with this branch would do well to secure the excellent works of those distinguished specialists on this subject, Sir Henry Thompson and Dr. Gouley.

The last chapter gives rather a full account of Bozeman's operations for vesico-vaginal fistula, with excellent plates for the same. There are other parts of the book possessing much interest but we have not the time for further examination.

The general unfavorable criticisms on this book by some reviewers, without pointing out the defects and failures, are unjust and unpardonable.

I hold that it is the duty of a reviewer to read the volume closely and point to the good and bad parts, that the readers may have a chance to judge, and not merely to make a wholesale assertion, as if he were almost omnipotent in his opinions, without discussing the contents, as did the reviewer in the "Charleston Medical Journal," Prof. Briggs in the "Nashville Journal," and Dr. M. H. Henry in the "Journal of Syphilography."

The reviewer in the "American Journal of Medical Sciences" evidently examined more closely the contents of the book, and referred to many things that he thought were not correct, and to others that he regarded as not in keeping with sound surgical doctrine.

The reviewer in the "Charleston Medical Journal" occupies six and a half pages, about one-third of which is devoted to giving his opinion, with no reference to any portion of the work. This opinion is written in beautiful and classic style, and proves that he is gifted with the pen, but does not indicate that he is adapted to studying and criticising a work on the "Principles and Practice of Surgery." It is true that he refers to several chapters and sections and pronounces just criticisms, and some that appear unjust, but the most of the book is passed over in silence by him, and much of that containing the most interesting part of the book.

Prof. Briggs, in about three lines in the "Nashville Journal," casts reflections on the merit of the work without giving any examination of its contents.

Dr. Henry, in his "Journal of Syphilography," makes a sweeping criticism of it, pronouncing it an inferior book, neither discussing nor pointing to any chapters except that on syphilis and the surgery of the eye, and reference to these chapters is barely made. Such reviews as these by Drs. Briggs and Henry are unjust to the author of the work under consideration, and if such precedents are established would often do violence to medical science.

I do not think it embraces all the subjects belonging properly and exclusively to surgery, but it is a good summary of surgical science, and will certainly compare favorably in original views with Gross or Ashurst.

Mr. Erichsen, in an introductory lecture before his class not long since, stated that we have two great schools of surgery; one representing surgical pathology, and the other practical surgery. I class among the leaders of the former school Sir Wm. Paget and Bilroth, of the latter school Mr. Erichsen and Prof. Hamilton.

While it is true that Prof. Hamilton has not embodied as much pathology as some medical authors, yet he has written a reliable, practical work on surgery, that can but sustain his well deserved fame.

His work on "Fractures and Dislocations" was acknowledged, fourteen years ago, when just published, to be the best on the subject in any language, and it still holds the same position with the Profession, and has placed his name high on the roll of fame as an eminently practical surgeon. I feel sure that his treatise on the "Principles and Practice of Surgery" will add to his fame and good name.

I have seen enough of Prof. Hamilton, personally, to know that he has the highest regard for truth and accurate science; therefore the Profession can have this assurance, that what he has written he conscientiously believes to be facts, and those

facts have been collected mostly from the best surgical field that our country offers.

There are several points in this book that I can not endorse, and I have plainly given my reasons for differences of opinion. When I thought his teachings were not in keeping with sound surgical doctrine, I have endeavored to point them out. I have also endeavored to comment on many of the valuable and practical portions of the work. After careful examination of it, I give it as my opinion that it is entitled to a position among the leading works on the practice of surgery. Every one who is giving attention to this branch of the Profession should have this book.

The publishers, Wood & Co., have done their duty, and sustained the well-earned reputation of their House.

NOTE.—This Review has been kindly prepared by Dr. Joseph W. Thompson, of Paducah, Ky.—ED.

A TREATISE ON ACOLOGY AND THERAPEUTICS, WITH SOME OF THE MOST PROMINENT PRINCIPLES AND RULES OF CHEMICAL AND MECHANICAL PHARMACY. By J. G. WESTMORELAND, M. D., Professor of Materia Medica and Therapeutics in Atlanta Medical College. Pp. 390, 8vo. Plantation Publishing Company Press: Atlanta, Ga.

This work, whose title includes materia medica, pharmacy and therapeutics, is offered to the Medical Profession, and especially to students of medicine, as a text-book on the comprehensive subjects of which it treats. That such a work is needed, there is no doubt. Teachers and students at the present alike have felt the want of a text-book in materia medica and therapeutics that shall be quite up to the time in these interesting and important branches. Several excellent works are already in use, but they have not supplied exactly what we need; they are either too voluminous and diffuse, or too elementary and concise; they are either too exclusively devoted to materia medica and pharmacy, or they deal with therapeutics alone.

In the work before us we hoped to find a happy combination

of the requisites in a good text-book for students without the defects that have marred the usefulness of its predecessors.

The author is a practitioner of age and experience. He has, for a good many years, occupied the responsible position of a Professor of Materia Medica and Therapeutics in one of our Southern Schools, and must, therefore, be well aware what should be the character of such a book. We are informed in the preface that it was in contemplation and was partially arranged several years ago. It has not, then, been hastily prepared, but ought, on the contrary, to be the full and mature result of prolonged and systematic labors continued for years, and that under circumstances which afforded ample opportunities to the author of keeping abreast with the progress of his branch.

It will be our task to examine how the plan proposed has been carried out; how far this book, offered to Southern students as a text-book, deserves the title, and whether it ought to be used as such.

The system of classification adopted is intended "to present the learner remedies grouped together, and classes named in accordance with their natural, direct physiological action." We do not underrate the importance of a convenient and philosophical classification, yet mere classification is, after all, a more or less arbitrary affair, and of secondary consideration. A full, accurate and lucid description of important medicinal agents, their modus operandi and therapeutic application, is a far weightier matter than the most perfect classification ever conceived; and without that, classification is worthless and a sham.

We can not agree that "incalculable advantage" is derived from the change in classification, which our author advocates and adopts, although, with the exception of some inconvenience and confusion, which he seems to have anticipated, no great harm is likely to ensue.

In looking over this classification, we find "Emetics" are styled "Inverse Gastric Excitants"; and in the description of

the mechanism of vomiting, we are informed that this act is due to inverted peristaltic action of the stomach, which forces the contents upward instead of downward. On page 187 it is admitted that the respiratory and abdominal muscles are also more or less concerned in the act, still the author seems to teach that the stomach itself is active during emesis, and that this act in the main is the result of *inverse* peristaltic movements of this organ; hence the new name proposed instead of the old. Truly, innovation is not a synonyme for improvement. We are surprised that the author passes over in silence the view generally adopted by the best physiologists on this subject. According to them the stomach is entirely passive in the act of vomiting, and the diaphragm and abdominal muscles are really the active agents. And in view of numerous, oft-repeated, and conclusive experiments and pathological observations, the author's account of the act of vomiting, and his new name for emetic medicines, are both entirely incorrect.

The alteration made in the chemical nomenclature of the last edition of the "Pharmacopœia," in order to place it in accord with the progress of chemical science, has been adopted in this work, but in neither is the change carried out to its full extent. It consists simply in designating salts of the alkaline metals as of the particular metal, and not of its oxide; in this way potassæ nitras becomes potassii nitras, sodæ acetas becomes sodii acetas, etc. This is well enough, but in view of such innovation, it appears strange to read muriatic acid instead of hydrochloric acid, and muriate of morphia instead of hydrochlorate of morphia, and so forth.

As usual, in books of this kind, attention is given to "circumstances which modify the effect of medicines." Among the psychical influences which modify pathological processes and the effects of remedies, the first place is accorded to "love," and our author informs us that "under such circumstances (when the person or patient is in love), the desire for food is usually wanting, and the amount necessary to afford proper support will not invariably be taken."

This is sad. Later on, however, one is encouraged by the assurance that "the effects of this passion, when not excessive, upon the mind is that of a pleasurable sensation, and under its benign influence irritability of the nervous system is to some extent allayed." This implies that persons of an irritable nervous system should be advised to "fall in love" on account of the pleasurable sensations and the soothing effects of the tender passion, and in spite of the danger of malnutrition and starvation incurred thereby. The author might have added that the majority of people are quite willing to run this risk, that the dose is generally taken with relish, and that the medicine is extensively used in domestic practice, and independently of doctors' advice.

From this we naturally turned to the chapter on *Alcohol*, and hoped the psychological studies and observations of our author had included this marvelous compound. One so deeply versed in the mysteries of "love" might well be expected to have a great deal to tell us of "wine." "Sine Baccho friget Venus." But no; we were doomed to disappointment. This vast subject, alcohol and all its preparations, is briefly disposed of in three pages. Not a word is said of its effects upon the pulse, the temperature of the body, and the secretions. The important question whether alcohol be a food, and if so, what is its value as such, what changes it undergoes in the system, how and to what extent it is eliminated? All these practical points are entirely ignored. In vain the student looks for practical rules for the administration of alcohol in disease, and "strange and most unnatural" the influence of alcohol upon "the passions" is passed over in profound silence.

Of wines very little is said. "Port-wine contains an astringent"; "Claret is tart." Wines in general "may be given in the dose of about four fluid ounces." So much for wine; laconic, certainly.

The alcoholic strength of different wines and other individual peculiarities which should guide the physician in his choice between them, and other matters relating to alcoholic stimu-

lants, though plainly of great practical import, have been entirely overlooked.

The article on Arsenic is remarkable mainly for its incompleteness. Eight preparations of this substance have a place in the last edition of the "United States Pharmacopœia" —viz., arsenious acid, arseniate of sodium, iodide of arsenic, liquor arsenici chloridi, liquor sodii arseniatis, liquor potassii arsenitis, liquor arsenici et hydrargyri iodidi. But only two of these—arsenious acid and liquor potassii arsenitis are mentioned in this text-book on "Acology and Therapeutics." The other six preparations, though frequently used and of great medicinal value, have been simply left out. We are not even told the name, dose, and the amount of arsenic represented by each. A student reading only this book on Materia Medica, would not even learn that such preparations are in existence. The application of arsenic to the treatment of disease is, according to this author, very limited indeed. Its use in intermittents and in rheumatism is mentioned, and mysterious hints are thrown out with reference to experiments now in progress under the author's immediate supervision, the object of which is to test the value of arsenic as a specific in the treatment of cancer. But the well known curative power of arsenical preparations in numerous diseases of the skin is not even alluded to. The properties of arsenic as a capillary stimulant and as an antiseptic, its use in dyspepsia, asthma, and in tuberculosis, are not mentioned. The author might, with propriety, have mentioned the constitutional effects of arsenic, its mode of elimination, and the occasional unpleasant effects from its administration. In this connection it would have been but natural to refer to the habit of arsenic-eating, and to give some practical rules for the administration of the drug. That arsenic should be taken after and not before meals is well known, and the omission to state this, and in fact the whole article on arsenic, is unpleasantly characteristic of the book. No student could be led to infer from reading it that arsenical preparations ever produce poisonous effects; and it is perhaps consistent, under the cir-

cumstances, that there should be no reference to the power and uses of the hydrated sesquioxide of iron as an antidote in poisoning with arsenic.

The average dose of Fowler's Solution, according to this "authority," is "ten drops." We venture to suggest that this is somewhat more than is usually either necessary or advisable in most cases. Five drops and less three times daily will generally suffice to produce all the characteristic effects of the drug upon the system, and more good will frequently be effected by a small dose continued for a long time, than by a large dose from which unpleasant symptoms, as a rule, quickly occur, rendering it necessary to withhold the medicine entirely until they have passed away.

The class of "Cardiac Sedatives" is composed of Veratrum Viride, Depletio, Frigidus, Antimonii, Potassii Tartras, Potassii Nitras.

We congratulate the author upon his success in classification. His efforts at reform of this kind are not limited to the arrangement of medicines in proper groups, but also extend to the dead languages. The use of "frigidus" as a noun is certainly an innovation startling to classical scholars. Perhaps after having made a noun of frigidus, hitherto an adjective, he will in another edition make an adjective of frigus, a noun of old, but now unclassed by Westmoreland's revolutionary "Acology."

Colchicum and Aconite are not to be found elsewhere in the book, and their names do not appear in the index. They might have been properly classed among the cardiac sedatives. Colchicum certainly possesses medical properties analogous to those of Veratrum Viride. Aconite assuredly deserves mention, not only on account of its independent medicinal effects, but also because it has been ascertained to be antagonistic to Digitalis. Believing the latter to be a *heart tonic*, a place can hardly be denied to Aconite among the *sedatives* of the *heart*.

Tartarized Antimony is briefly considered, so briefly indeed that even the name of antimonial wine is missing, and of course

the amount of tartar-emetic it contains, and the dose, are left out. The compound syrup of squills is noticed in another part of the book, but its proportion of tartar-emetic and dose are left out.

We had supposed the use of tartar-emetic in pneumonia to be a thing of the past. We dared to hope that every teacher of medicine would be familiar with the statistics of pneumonia in relation to treatment. It does appear strange that a writer on therapeutics in the year 1873 should recommend tartar-emetic in this disease, when it is ascertained that Rasori, of Milan, under such treatment, had a mortality of 1 in $4\frac{1}{2}$ cases. Grisolle's results from a similar plan of treatment was a mortality of 1 in $5\frac{1}{3}$; and Dietl, treating his cases in the same way, lost 1 in 5. Surely the simple dietetic treatment of Dietl and the "nihilismus" of homœopathy, with a mortality of about 1 in 13, are to be preferred to the plan advised by Dr. Westmoreland, with a death rate of one in 5.

Among the heart tonics we notice with pleasure that the author places digitalis first and foremost on the list. But it is difficult to realize that the very name of the most active principle of this excellent remedy, itself of great medicinal power, should not even be mentioned. Digitalin is now so frequently prescribed by physicians everywhere, that we can find no excuse for this extraordinary omission. It is true that digitalin does not represent all the properties of the plant—digitalic acid, digitalose, and digitalide are more or less important constituents of it, yet they are all omitted without even a covert hint at their existence. The therapeutic uses of digitalis and digitalin are now receiving a prominent share of attention by medical men. Dr. Westmoreland, however, dismisses this interesting subject with a most brief, meagre and wholly inadequate notice.

The uterine stimulants are ergota and gossypii radix.

One page is devoted to the discussion of this drug, upon which volumes have been written, and in regard to which our knowledge is still increasing. We are surprised to learn that

"the only reliable medicinal property of ergot is that of a uterine stimulant." The author gives no credit to the observations of Brown-Séquard and Anstie, but the Medical Profession certainly does. The position of both these gentlemen is such that their observations should at least have been mentioned. The statement of the former that ergot causes a contraction of the blood vessels, especially of the spinal cord, has been generally received, and is daily acted upon in practice. And the remarkable effects of ergot in the treatment of hæmoptysis, reported by Dr. Anstie, have been confirmed by numerous observations of others. No allusion is made to the poisonous effects of this drug, and its modus operandi is not discussed; we are merely told that it causes contraction of the muscular fibres of the uterus. The infusion of ergot, by many physicians considered to be the best of its preparations, is not mentioned, and the chemical composition of the drug is, as usual, left out. Wentzell's interesting experiments ought, however, to have had a place in a work with such pretensions as this. The existence of ecbolina, ergotina and ergotic acid in ergot, and the effects upon the system of the first two, are interesting and important enough to have been mentioned, and the author's neglect to do so is decidedly culpable.

Comparatively recent additions to the number of anæsthetics, such as amylene, bichloride of methylene, and others, have not been included. Even such a remarkable drug as nitrite of amyl has not been found worthy of a line in this work on "Acology." Few medicines in the materia medica have properties so striking and effective as this. The effects of nitrite of amyl in asthma, angina pectoris, various convulsive diseases, syncope, and its power as a cardiac stimulant, are so interesting, and suggest for it such extensive application in the treatment of disease, that its exclusion will scarcely be forgiven.

On the title-page is set forth that this "Treatise" "will contain some of the most important principles and rules in chemical and mechanical pharmacy; but deficient as it is as a work on "Therapeutics," the imperfections from a pharmaceutical point

of view are, if possible, more numerous and grave. Many of them have already been pointed out. Of all the numerous preparations of lead, only one is noticed by the author; the iodide, nitrate, and Goulard's Extract are left out, neither is any mention to be found of the modus operandi of lead, or of its poisonous effects. Very few of the officinal preparations of iron, or of those in common use, are even alluded to. The author has, for some reason of his own, no doubt, seen fit to give nothing but the most meagre account of the effects of this medicine on the blood; the interesting observations of Andral, for instance, are not quoted, nor does he note the important effects of iron in increasing the albumen of the blood.

Under the class of antiseptics, we find carbolic acid, creasote, and others; but, strange to say, the author carefully abstains from mentioning the poisonous effects of carbolic acid. They have, nevertheless, been often enough observed to demand at least a bare statement that this remedy, under certain circumstances, acts as a violent and fatal poison. A brief account of the symptoms and treatment would probably be beyond the scope of this volume, and therefore has been left out.

The antiseptic theory and the plan of treatment based upon it, as taught by Lister, Saunderson, and others, might, properly, and with advantage to the reader, have received some attention under this head, but the author evidently thought differently.

If the student of materia medica desires to learn how much Rochelle salts, tartaric acid, and bicarbonate of soda go to make up a Seidlitz powder, he must consult some other work than this; if he wishes to know the composition of the compound cathartic pill, the simple and compound rhubarb pill, the compound extract of colocynth, compound jalap powder, Dover's powder, and of the numerous useful and officinal preparations of aloes, he will scan in vain the pages of Dr. Westmoreland's "Acology" for such information.

The question naturally arises, Why are these and hosts of other officinal and frequently used preparations so rigidly excluded that their very names are not even to be found on the

index of a work confessedly intended not only to represent the present state of therapeutics, but also of materia medica and pharmacy? The only apparent reason for such exclusion is the narrow limits of the book, containing 391 pages with the index; and that space was needed for the mention of such potent drugs and important remedial agents as Irish moss, slippery elm, infusion of sassafras pith, gum water, wintergreen, raspberry root, and others, not forgetting a rather large landscape representing a number of Persians engaged in the process of extracting assafœtida.

But even a text-book of the most elementary character ought, at all events, to consider such drugs as opium and cinchona in a manner and to an extent commensurate with their power and importance. Other medicines may be omitted or hastily and imperfectly noticed, but surely these are entitled to a full and exhaustive consideration. None are studied by thoughtful physicians with greater interest, attention and care; none have more varied and important properties, or more extensive and diversified therapeutic application. In fact, the merits of such a book may be fairly tested by the thoroughness and accuracy with which it treats of these indispensable aids of the practicing physician.

In conclusion, let us apply this crucial test and then close the uncongenial task requiring censure where we would have been glad to find occasion for praise.

In reading over the article on Opium, we notice with regret that the author has failed to mention the peculiar effect of this drug in causing contraction of the pupils. Such an omission is strange, but scarcely more so than the imperfect account given of the alcaloids of opium. The most important active principles of this drug are said by the author to be morphia, narceia, and opiania; but this is neither a complete nor a correct statement of the complex composition of opium. It is usually conceded that this contains four alcaloids—morphia, codeia, papaverina, and thebaia, or paramorphia. To these have been added by later researches two other alcaloids—narceia and

opiania. But why does the author lay aside codeia, whose hypnotic properties are universally admitted, and thebaia, whose convulsant action has been reported by Magendie and Claude Bernard to be like that of brucia and strychnia? Narcotina has no soporific effect when pure, but it is a tonic, antiperiodic, and diaphoretic, and the mere fact of its being an active component of opium and assisting to produce some of the varied effects of the drug, should have secured its mention.

The pilula opii, pilula saponis composita, and emplastrum opii, preparations of opium in common use, have found no room in these pages. Is it possible the author thought it out of place in a work on materia medica to state that we have an officinal solution of sulphate of morphia, whose strength is one grain to the ounce of water? If so, it is but natural he should regard it a work of supererogation to let us know that in many parts of this country another solution of the same salt (Magendie's) is in common use; the strength of the latter being sixteen grains to the ounce of water, or one-sixth of a grain to five minims.

The account of the therapeutics of opium is very meagre and unsatisfactory. The author says nothing of its use in peritonitis and other severe acute diseases, and the toxicology of the drug is entirely ignored.

Cinchona is classed among "spinal tonics," and is said to be "the most prompt and active of spinal tonics yet discovered." This will be readily acceded to when the other members of this group are found to be "salix, cornus, impluvium, and cimicifuga." This view of a drug whose medicinal virtues are so powerful and varied, is rather faulty, because narrow and incomplete. Four pages only are devoted to cinchona, and one of these is wholly occupied by wood-cuts representing parts of the tree which are not used in medicine, and which probably have no medical properties whatever.

Of the four alcaloids of bark, the author mentions only two —quinia and cinchonia. It is hard to understand why quinidia and cinchonidia should have been thus unceremoniously

dropped. Quinidia is isomeric with quinia, cinchonidia with cinchonia, but there are important physical, chemical and therapeutic differences between them. Chinoidine, which, for cheapness and efficacy as an antiperiodic, is much valued; the compound tincture of cinchona, or Huxham's Tincture of Bark, and the tannate and valerianate of quinia have all been forgotten or wilfully ignored, though prescribed by physicians with sufficient frequency and success to deserve a passing notice, if no more.

But nothing can give a more perfect realization of the inadequate manner in which this subject is treated than to enumerate the important points not touched upon: Thus, the modus operandi of quinia and other preparations of bark, their effects upon the temperature of the body, upon the heart, the capillaries, and the blood, and upon the spleen; by what way and in what proportion the drug is eliminated, are points of absorbing interest to the student and practitioner, but upon all of them our author is obstinately silent. All practical rules for the use of the drug are wanting, and the therapeutic application of it is so unsatisfactory and incomplete that it is far below what could be justly expected from a practitioner of ordinary attainments and experience.

The faults of this book are, on the whole, more of omission than of commission, but the former are so many and so serious that it can not supply the wants even of a beginner. Only a few of the latter have been noticed; both time and space are lacking to enter more fully into the merits and demerits of the book. But it has been carefully examined, and even in consideration of the short-comings here pointed out, the conclusion is unavoidable that it is entirely unfit for a text-book, and that it does not, by any means, set forth the present state of knowledge of materia medica and therapeutics.

The publishers deserve praise for the creditable manner in which it is gotten up; it is well and attractively bound, the paper of good quality, and type clear and distinct, and but few typographical errors to be found.

A Practical Treatise on Diseases of the Ear, including the Anatomy of the Organ. By D. B. St. John Roosa, M. A., M. D. Illustrated with Wood Engravings and Chromo-Lithographs. New York: William Wood & Co. 1873.

This book is intended not only for the specialist, but also for those physicians who, remote from large cities, are compelled to give advice to those suffering from morbid conditions of the ear. The diction and description are good. The anatomical portions of the work are welcome and valuable. The pathology and treatment given are not only from one of recognized experience and special position, but there is in addition furnished to the reader the views, operative and medicinal treatment of most of the recognized specialists in this department of medicine. The cuts, chromo-lithographs, letter-press, and binding are specially creditable, and are an honor to the excellent Publishing House issuing this work.

Lectures on Diseases and Injuries of the Ear, Delivered at St. George's Hospital, London. By W. B. Dalby, P. R. C. S., etc., with Twenty-one Illustrations. Philadelphia: Lindsay & Blakiston. 1873.

As an abstract of these lectures was published in the "London Lancet" of 1872, many readers are familiar with them. The style of the lectures is chiefly that known as conversational; it is easy and pleasant. Most of the pathology, symptoms and treatment are to be found in Toynbee's work on the ear, or in Mr. Hinton's article in "Holme's Surgery." The author does not fail to admit these facts. He has done good work by abridging and efficiently analyzing these works and placing them in more convenient form. He has also presented much not mentioned by either Toynbee or Hinton, and his lectures are better exponents therefore of the present pathology and treatment of the ear than are to be found in the volumes mentioned. The publishers have issued the work on poor paper, something very unusual with them; the text is, however, clear and legible. As a small octavo of a little over 200 pages, it is within the pecuniary reach of all.

On the Mechanical Treatment of Disease of the Hip-Joint. By Charles Fayette Taylor, M. D., Surgeon of the New York Orthopœdic Infirmary, etc. New York: William Wood & Co. 1873.

This octavo of sixty-two pages is so well prepared by its efficient and experienced author, so beautifully and profusely illustrated, so handsomely printed and issued, and costs so little, that it will be most generally purchased by the Profession. All wish practical information on this important subject, and no one can fail to derive most valuable aid and information by the study of this remarkably attractive and valuable volume. It is highly recommended.

A Treatise on Diseases of the Eye. By J. Soelberg Wells, F. R. C. S. Second American from the Third English Edition. Two Hundred and Forty-six Engravings. Philadelphia: Henry C. Lea. 1873.

It is only necessary to call attention to the fact that a new edition of this splendid work has been published. There are many additions, alterations, and amendments that have been made, and the volume may now be regarded as equal to any authority upon this subject now before the public. The publisher has issued the volume in a manner most commendable. The illustrations are excellent, and are to be found throughout the work. An analytical review of so well known and classic an authority would be useless.

Proceedings of the Medical Society of North Carolina. 1873.

The meeting at Statesville, in May last, was most successful, instructive and harmonious. Excellent papers were presented by Drs. H. O. Hyatt, E. F. Lewis, R. L. Payne, T. F. Wood, and M. Whitehead. The meeting was enlivened by a discussion of the principles of the modern treatment of acute internal inflammations. Dr. S. S. Satchwell defended the old anti-phlogistic treatment, and Dr. W. A. B. Norcom advocated the views now recognized by the leading pathologists of Europe and

America. The discussion must have been amusing, as well as instructive. Dr. Satchwell, it seems, abused, in no measured terms, the editors of the "London Practitioner and "Louisville Medical Journal" for having criticised his previous views upon this subject. It is not learned yet whether these journals or their editors have materially suffered; if wounded, they have not yet discovered the fact; indeed, it is more than probable that they would never have learned of the efforts made by Dr. Satchwell to destroy them, if they had not been carefully informed upon the subject. It is a consolation to know that the wounds, if inflicted, were from a gentleman, honest, honorable and respected, and that if any scars remain, they will be those which no one can regret to bear. Dr. Satchwell, however, must recant his present untenable views, for if he does not, and comes before the Medical Public again, he will have the same London and Louisville journals making a little quiet fun at his expense. Dr. Norcom, it is said, defended the modern doctrines of the treatment of inflammation with much ingenuity and ability, and sustained himself most creditably. He was made President of the Society; a well-merited compliment. The meeting was, it appears, most harmonious and satisfactory. The Society adjourned to meet at Charlotte on the third Tuesday in May, 1874. The Transactions are very badly printed; in this respect they are not creditable to the Old North State.

PHYSICIANS' MEDICAL COMPEND AND PHARMACEUTICAL FORMULÆ. By EDWARD H. HANCE. Philadelphia: Hance Bros. & White. 1873.

It is with great pleasure that the attention of the Profession is directed to this excellent Compend. In a small work of 212 pages, five inches by three, there is compressed most of the salient and important facts to be found in large works on materia medica and therapeutics. It may be well termed a vade mecum, for it is small enough to be carried at all times, and is a complete and efficient aid in obtaining facts of essential interest to the physician and pharmaceutist. It is a work highly

creditable to its author. The House publishing it is one of the largest and best and most reliable Drug Houses in America. Indeed, their name on any article sold is a guarantee of its purity and efficiency. This little pocket remembrancer is fully commended.

MISCELLANEOUS.

"Non omnes eadem mirantur ament que."

Life of William Harvey, M. D.—The subscribers are presented, as a Christmas gift, with an excellent engraving of the immortal Harvey, the discoverer of the circulation. The likeness is taken from that of Harvey, as it appears in the celebrated engraving of "Harvey demonstrating the course of the circulation to Charles I." As the King is, of course, represented sitting, while Harvey stands and looks downward into the face of the monarch, the eyes of the great physician would naturally appear as they do in the likeness presented in this number. These facts explain the reason of the downward glance of the eyes and the partial covering of the globe of the eye with the upper eyelid. The likeness is regarded as the best extant, and it is hoped that the subscribers will value it. The chief facts in the life of Harvey are as follows:

William Harvey, an English physician, celebrated as the discoverer of the circulation of the blood, was born at Folkstone, in Kent, April 2, 1578, and, in 1593, removed to Caius College, Cambridge. At the age of 19, he went abroad for improvement, and, after visiting France and Germany, he stayed some time at the University at Padua, where Fabricius ab Acquapendente, and other eminent men, were professors of the medical sciences. He took the degree of M. D. in 1602, and, returning to England, obtained a similar distinction at Cambridge. Having settled in London, in 1604 he was admitted a licentiate

of the College of Physicians, and, three years after, a Fellow. In 1615, he was appointed to read lectures at the College on anatomy and surgery; and, in the course of this undertaking, he developed the discovery that immortalized his name. It was not till 1620 that he gave publicity to his new doctrine of the circulation of blood, by his treatise entitled "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus." In a prefixed address to the College of Physicians, he observes, that he had frequently, in his anatomical lectures, declared his opinion concerning the motion of the heart and the circulation of the blood, and had, for more than nine years, confirmed and illustrated it by reasons and arguments grounded on ocular demonstration. It speedily excited the attention of anatomists in every European school of medicine; and the theory of Harvey having been triumphantly defended against all objections, attempts were made to invalidate his claim to the discovery; but it is now admitted, that whatever hints may be found in the writings of his predecessors, Harvey first clearly demonstrated the system of sanguineous circulation, and thus produced one of the greatest revolutions in medical science. Harvey was appointed physician extraordinary to James I, and in 1632, physician in ordinary to King Charles, by whom he was much esteemed. Adhering to the court party, on the occurrence of hostilities, he attended His Majesty on his removal from London. He was with him at the battle of Edgehill, and afterwards at Oxford, where, in 1642, he was incorporated M. D. In 1651 he published his "Exercitationes de Generatione Animalium" (4to). This curious work would have been still more interesting had not the plunder of the author's museum, while he was in the King's service, deprived him of the fruits of some of his anatomical researches, especially those relative to the generation of insects. He presented to the College of Physicians his paternal estate of £56 a year for the institution of an annual festival and other purposes. In his old age, he was subject to distressing attacks of the gout, which embittered his existence so much, that he is said to have shortened his life with a dose

of opium. He died June 3, 1658. A splendid edition of his works was published in one volume, 4to, with an account of his life, by Dr. Lawrence, etc.

Ovariotomy in a Child of Six Years and Eight Months.—The "Medical Press and Circular" of the 26th of March says a remarkable case is reported in the continental journals:

The child was born healthy, and in 1870 a tumor was first perceived in the abdomen; in May, 1871, it was as large as a child's head. An incision was made over the abdomen, the tumor was punctured and easily withdrawn; the pedicle was retained, and tied at the inferior angle of the wound. The cyst enclosed, besides a quantity of fluid, an irregular bony mass, somewhat like a superior maxillary bone, with depression resembling the alveoli, also hairs of a yellowish color, as those of the child were, and also a fatty mass. The sutures of the wound were removed on the ninth day, and on the nineteenth day the child had completely recovered.—*Clinic.*

Kuchenmeister on the Spread of Cholera.—I belong to those who believe in a specific infectious poison which finds its way into the earth always rendered impure from without, in the course of time by the discharges from patients. The advocates of this view find support in the fact, that water not specifically impure, no matter how foul or slimy, can be ingested without any other danger than that arising from irritation of the stomach. The late and multiform experiments upon pyæmia and septicæmia, as well as the so-called *schwarzwusser* of certain parts of Bavaria, prove the truth of this statement. The most frequent means by which the specific poison finds its way into the subsoil (without excluding other means) is, either directly or by infiltration, through the soil, of the dejecta, particularly the stools of patients. We consider thus these dejecta, particularly the stools, as the carriers of the poison.—*Open Letters to Wiener Allgem. Med. Zeitung.*

New Means of Dilatation in Stricture of the Urethra.—It simply consists in the employment of a column of liquid about

twenty metres high, established by means of a funnel, and containing about a pound and a half of water (boiled at 25° or 27°C.), and suspended above the patient's bed. An India-rubber tube, (about two metres long), and provided with a cock in the middle of its length (so as to moderate or suspend the current of water), and having at its end a small glass pipe like an ordinary syringe, which is to be introduced into the meatus urinarius, connects the apparatus with the penis. The glass end being introduced, the cock is more or less opened at will, and slight pressure is exerted on the glans, to prevent the water from running outside. The water in the funnel is then forced down by its own weight, and runs down drop by drop, dilating the stricture without pain, and through its local antiphlogistic action, rendering the urethra pervious to sounds and bougies. The patient can himself apply the apparatus three or four times a day, and when it is removed, the surgeon has only to make use of his sounds or bougies.—*Mouvement Medical.*

Amputation of the Entire Uterus in a Case of Inversion.—Dr. Martino Barba, of Naples, reports a case of a woman twenty-five years old, who suffered a complete inversion of her uterus following the delivery of her second child. Owing to the exhaustion of the patient by almost constant hæmorrhage, Dr. Barba removed the uterus by means of an écraseur followed by a metallic ligature. The woman recovered and was discharged from the hospital on the twenty-second day after the operation.

This, according to the reporter, makes the sixty-fourth case of ablation of the inverted uterus which has been recorded, forty-four of this number having recovered. A point considered by him worthy of remark is the fact, that the operation by means of the ligature has met with greater success than any of the other modes, the uterus coming away generally by the twentieth or thirtieth day, during which time the free use of disinfectant washes is requisite.—*Le Tribune Medicale.*

Mode of Action of Chloral.—According to some recent experiments made by M. Gubler, a French scientist, and reported

in the "Journal de Pharmacie," chloral does not act, as has hitherto been taught, by the development of chloroform in the blood, but by its direct action as chloral. The effects of chloroform are mainly and primarily anæsthetic, while those of chloral are soporific, and not anæsthetic, except secondarily, when the function of the heart is dangerously depressed. M. Gubler describes the toxic effects of chloral as acute and chronic. The acute are vomiting, vertigo, prostration, stupor, coma, convulsions, and sometimes death from paralysis of the heart. Chronic chloralism is characterized by accidents analogous to those of ergotism, that is to say, by hyperæsthesia, general malaise, desquamation of the epidermis of the fingers, superficial ulcerations about the nails, anasarca, albuminuria, feebleness of the heart, and embarrassment of respiration. These accidents often terminate in death. Such dangerous consequences may be avoided by not giving the chloral for too long a period of time. In either kind of poisoning, the toxic effects are to be combated by calefaction, olfaction of stimulating odors, artificial respiration and the inhalation of oxygen.—*Ex.*

Night Sweats of Phthisis.—For the relief of this exceedingly troublesome symptom in this disease, a comparatively new remedy is being used somewhat. It is the sulphate of atropia. Some of the patients are taking one-sixtieth of a grain in solution *ter in die;* some are taking one-hundreth of a grain at bedtime, and all are giving very good results. The success in this direction has already been sufficient to entitle it to a trial at least. A very excellent plan of managing these night sweats consists in sponging the patient in hot water, as hot as he can comfortably bear. If a patient is found sweating profusely in the night, take him out of bed, sponge him thoroughly with hot water, wipe him dry, replace his flannels, and put him back to bed. Sometimes a single sponging will arrest the sweating for two or three days.—*New York Med. Record.*

Case of Vesico-Vaginal Fistula in a Girl Nine Years of Age.—The fistula was caused by the passage of a calculus of

the size of a pigeon's egg through the walls of the vagina. The calculus consisted of phosphate of ammonia and magnesia. The whole of the vesico-vaginal partition was destroyed. The existence of the calculus had never been suspected previously. Communicated by M. Cazin to the Societé de Chirurgie.—*London Lancet.*

Physicians' Incomes in Dublin.—In the recent inquiry into the condition of the Civil Service in Ireland, it was natural that there should be some reference made to the incomes obtained by professional men in this country. Some extracts of the evidence given may be of interest. Dr. E. Kennedy stated that in Dublin a competent medical man, having the advantages of a hospital and connections, ought, when of ten years' standing, to make from £800 to £1,200 a year; if reasonably successful, he ought then to double his income in the course of the next five or six years, and a really successful man ought, in a few years, more than double his income again; but the instances in which the medical man reaches £4,000 a year, or £5,000 are very rare. The advantage of a hospital to a physician is, that his pupils become scattered about the country, and send up patients to him. In the chief provincial towns of Ireland, with a large population, the leading medical man may possibly reach from £1,200 to £2,000 a year. Sir D. Corrigan, who was also examined, thinks there are ten or twelve medical men in Dublin making from £2,000 to £6,000 a year, or more; and there are a great number, whose names are not very prominently before the public, making from £800 to £1,000 a year. There are general practitioners in Dublin, men who have never written a line, and who are unknown to the public as men of great eminence, who sometimes accumulate large fortunes.—*London Lancet.*

Preserving Charred Papers.—Mr. E. H. Haskins, of Lowell, Massachusetts, has suggested a very useful and practical way of preserving and giving toughness and flexibility to charred paper, which has proved to be of much importance in the iden-

tification and copying of valuable documents charred by conflagrations such as the recent Boston and Chicago calamities. We have seen specimens of charred papers and bank-notes, thus treated, that can be handled with impunity. The printing upon the charred bank-notes can be readily discerned. The preserving process consists, we believe, in pouring collodion upon the surface of the charred paper. The collodion forms a thin transparent film, dries in a few minutes, when the process is complete.—*Scientific American.*

John Aubrey, who was at Harvey's funeral and "helpt to carry him into the vault," writes: "I have heard him (Harvey) say, that after his 'books of the Circulation of the Blood' came out, he fell mightily in his practice, and 'twas believed by the vulgar that he was crack-brained; and all the physicians were against his opinion and annoyed him. All his profession would allow him to be an excellent anatomist, but I never heard of any that admired his therapeutique way. I knew several practitioners in this town (London) that would not have given 3*d.* for one of his bills (prescriptions), and that a man could hardly tell by one of his bills what he did aime at."—*Ex.*

Water of all Flowers.—An ancient formulary of the seventeenth century has this prescription, which was to produce a "Water of all Flowers" (Aqua Florum Omnium). The process adopted is remarkable for its simplicity and logical accuracy: "Send a cow into a meadow full of flowers; when she has eaten all the flowers, gather the dung, distill it, and you have water of all flowers."—*Med. and Surg. Rep.*

As illustrating the adroitness of many lunatics in concealing their illusion, it is related that the French novelist, Balzac, once became so much interested in a man whom he believed to be unjustly confined in an asylum, as to carry the case before the courts and obtain a decree for his liberation. On the day of his release he invited the man to breakfast with himself and a few friends. The invitation was so stoutly declined that Bal-

zac demanded the reason, and at last extorted from the poor fellow that it was impossible for him to appear except at night, *because he was the moon.—Cin. Lan. and Obs.*

Early Menstruation.—Dr. R. K. Clark records ("Boston Medical and Surgical Journal") a case of a child aged six years, who, soon after completing her fifth year, commenced to menstruate, and has continued to do so regularly every twenty-eight days. She is not precocious in any other respect, except her form, which is that of a girl of fifteen or sixteen. An aunt of this girl is said to have begun to menstruate regularly at the age of six years.

A Jump off London Bridge.—"Guy's Hospital Gazette" mentions that in No. 26, Clinical Ward, there is a case of pleurisy produced by a jump off London Bridge. The patient states that during the whole time of her fall and immersion she did not lose her senses, and, on admission, she inquired into what hospital she had been brought. She was in the water ten minutes.—*British Med. Jour.*

Material for Hypodermic Injections.—The aqueous solutions of the alkaloids are soon impaired by the growth of minute fungi on the surface. This is prevented by the addition of 25 per cent. of glycerin. Sulphuric acid is thought to be better than hydrochloric to facilitate the solution of the salts.—*Chicago Med. Examiner.*

Modern Industry.—A Vienna journal contains the following announcement: "Anna Agricol, sick-nurse, washes dead bodies, repairs straw chairs, applies leeches, and makes pastry desserts and delicacies."—*Med. Times.*

MEDICAL NEWS.

'Nulla dies sine linea."

It is the custom of the Medical Department of the University of Louisville, Ky., to receive through its Dean, Dr. J. M. Bodine, students who have come to the Louisville Medical College, on the payment of five dollars!! The tickets of the Professors of the University are given to such students "without money and without price." Not only this, but students are importuned to receive these tickets on such terms. Students thus misled and importuned have torn up the tickets so forced upon them, and have returned to the Louisville Medical College. Such facts need no comment.———The Profession will regret to learn that the "Archives of Scientific and Practical Medicine, edited by Drs. C. E. Brown-Séquard and E. C. Seguin, has failed.———At the last meeting of the United States Pharmaceutical Association, held at Richmond, Va., this Body voted an honorarium of $200 to Professor C. Lewis Diehl, of the Louisville (Ky.) College of Pharmacy, for his report on Medicines and the Progress of Pharmacy. He was elected to report next year on the same subject, and the same sum was voted as a reward. This is a great and well-deserved compliment. This Association meets next in Louisville, September, 1874.———The Louisville Medical College had in November a class of 250 students.——It is proposed, in Italy, to erect a monument to Eustachius. Few anatomists have had their trumpet so much blown.—*Ex.*——— *Modern Surgery.*—Under this title Mr. Erichsen has published his Introductory Lecture at University College.—*Dublin Press and Circular.*———Prof. Sigmund, of Vienna, has obtained a six months' furlough, and intends spending the winter in Italy. Prof. Zeissl is spoken of as likely to continue the class for the present.—*British Med. Jour.*———A petrified child has been exhumed at Cheyenne, Wyoming Territory, according to a writer in the "Cincinnati Lancet and Observer." It had been dead for two years, and is

described as absolutely perfect and statue-like.———Two hundred and fifty of the sufferers from the great fire in Chicago have since become insane.—*Ex.*———Professor Czermak, of Leipsic, the celebrated laryngoscopist, died on the 16th of September.—*Ex.*———Tincture of digitalis with brandy has been recommended prior to the inhalation of chloroform, for the purpose of preventing bad effects on the tonicity of the heart.—*Ex.*———Twins were born 289½ days after a former child says a writer in the "Cincinnati Clinic."———*The Scientific Congress at Rome.*—The Italian savants hold their Congress this year on the 20th instant in Rome. This is the first time for a great number of centuries, as the organizing committee observes, that reason and science will be able to raise their voices freely in the city of Rome. The Congress will remain in session ten to fifteen days. Like our scientific congresses, it will be divided into sections and classes comprising all the branches of science. Strangers are received as guests. Senator Tevenzio Mamiani is president, Senator Giuseppe Ponzi and deputy Onovato Cactani assistants. Prof. Luigi Biolchini and Rodolfo Lanciani fill the office of general secretary.—*Gaz. Med. de Paris*, Oct. 18, '73.——— Dr. Barnes, Surgeon-General U. S. A., was elected corresponding member à la presque unanimité des suffrages of the Paris Academy of Medicine, session Oct. 15, 1873.—*Gaz. des Hop.*, Oct. 15, '73.——— Prof. Virchow delivered in the Vienna Exhibition Building an address on the importance of International Exhibitions and their influence on the progress of science.—*Ex.*———*The Attendance at the Vienna Clinics.*—The Allgem. Wien. Med. Zeit., Oct. 21st, deplores the decrease in the number of students attending the medical clinics since the demise of Oppolzer and the retirement of Skoda. The halls which were filled by such throngs that it was almost impossible to wedge into them are now comparatively empty. The actual decrease amounts to 300 students, while a corresponding increase has been noticed at Prague and Gratz.—*Ex.*———*The Retirement of Hyrtl.*—In his opening lecture Prof. Hyrtl announced to his crowded class the melan-

choly communication that he proposed withdrawing from his position at the close of the present course.—*Allgem. Wien. Med. Zeit.*, Oct. 21, '73.——— *The Heidelberg Physicians and the Public.*—The news reaches us from Heidelberg that the entire Profession is united *en masse* against the public with a view of raising fees. It is generally understood in Heidelberg that the recompense of physicians' visits is left entirely to the patient, but with the understanding that the minimum fee (as for the poor) for an office or house visit, by day, whether a prescription be written or not, is one mark (about 25 cts.). Minimum night visits are two marks, certainly a very modest sum.—*Allgem. Wien. Med. Zeit.*, Oct. 14, '73.——— *The First to Suggest the Idea of Dispensaries.*—Dr. Samuel Garth, in 1702, was the first physician who suggested the idea of dispensaries where advice was given gratis to the poor. He may be considered the founder of those benevolent institutions. His poem of "The Dispensary" was a satire on the interested quacks and apothecaries who opposed the charity.—*Ex.*———Dr. Bowling states very unqualifiedly that the regions where the cholera prevailed in Nashville and the surrounding country, are those in which, for the most part, intermittent and malarial fevers are entirely unknown. The same rule has been observed in all former visitations of the disease. It has avoided malarious districts, and shown a decided partiality for elevated regions known to be exempt from malarial poison.—*Ex.*——*Why* is a tom-cat like a surgeon? Because they both mew-till-late.—*Stevens, Cin. Lan. and Obs.*——Thirty-seven ladies are said to have matriculated already in the Medical Department of the Michigan University.—*Ex.*———*Cost of an Epidemic.*—The "London Medical Record," April 16, '73, states that the small-pox epidemic cost Dublin at least £35,000.—*Ex.*———The death of Sir Henry Holland is announced by telegraph in the daily papers.—*Ex.*———M. Nélaton is said to have died worth over £280,000.—*Ex.*———There were 514 deaths in New York for the week ending October 18th, of which 23 were by violence.—*Ex.*———Dr. Gordon Russell, of Hartford, Conn., has

presented to the Retreat for the Insane the sum of $10,000 toward the erection of a memorial chapel for the use of inmates.—*Ex.*———Plymouth, Wis., boasts of a centenarian named Jacob Johnson. He was born in Kinderhook, N. Y., in 1770, and is consequently in his 104th year.—*Ex.*———Dr. Braxton Hicks, of London, has so nearly recovered from his severe illness, caused by an infectious wound, that he will soon return to his ordinary duties.—Lidia Rodelrena, a wealthy Russian lady, has just presented to the St. Petersburg Academy of Medicine £40,000 to endow a department for the medical instruction of women.—Mr. John Stuart Mill bequeathed £3,000 to any one university in Great Britain or Ireland that shall be the first to open its degrees to women, and the same university a further sum of £23,000 to endow scholarships for female students exclusively.—The Russian lady medical students have been refused permission to study medicine at the Universities of Strasbourg and Giessen by the authorities of those institutions.—On September 8th Professor Hughes Bennett, of Edinburgh, was elected corresponding member of the National Academy of Medicine of France. He received twenty-eight votes, and Prof. Van Benedin eight.—A memorial to Von Graefe is proposed in London.—*N. Y. Med. Journal.*———*A Cremation Club.*—The "Lancet" learns that a club has been formed at Hamburg for promoting the practice of incineration instead of burial. The club is said to number eighty members, each of whom, on entering, makes a will directing the disposal of his body after death.—*Ex.*———*Proposed Monument to Eustachius.*—The city of Sanseverino-Marche, in Italy, has resolved to erect a monument to its greatest citizen, Bartholomew Eustachius, the great anatomist, philosopher, and physician of the sixteenth century. Subscriptions will be received at the office of the "Annali Universali di Medicina, Milan.—*Exchange.*———*To Restore Color to Fabrics.*—When color on a fabric has been accidentally or otherwise destroyed by acid, ammonia is applied to neutralize the same, after which an application of chloroform will, in almost all cases, restore the original color.

The application of ammonia is common, but that of chloroform is little known. Chloroform will also remove paint from a garment, or elsewhere, when benzole or bisulphite of carbon fails. —*Amer. Artisan.*———*Opium Land* pays a price in Malwa unknown in any other part of India. Meadow land about a market town in England is scarcely more remunerative to landlords than thousands of square miles blooming with the poppy to the chiefs of Malwa.—*The Clinic.*———*Precocious Dentition.*—We read in "L'Union Medicale du Canada," October, "Dr. C. M. Filiatrault, of this city (Montreal), informs us that during the past month he attended the accouchement of a woman who brought into the world a child whose two inferior incisors were pierced through at the moment of birth. It was a masculine child, and well formed. It is known that Louis XIV. was also provided with two teeth at the time of birth." —*Canada Medical Times.*———*The Physician's Visiting List.*—Messrs. Lindsay & Blakiston, Publishers, of Philadelphia, have just issued their "Physician's Visiting List" for 1874. The fact that this little work has reached the twenty-third year of its publication is convincing proof of its value to the Profession.—*Medical News.*———*Died suddenly,* in Washington, D. C., September 20th, aged sixty-seven, Dr. Thomas Miller, Emeritus Professor of Anatomy and Physiology in the Columbia College, and a prominent practitioner of the District of Columbia.—*Med. News.*———*A Very Modest Nation.*—The Paris Prefecture of Police has come to the conclusion that the word "venereal" is immoral, and has therefore forbidden further announcement of "Courses upon Venereal Diseases." Such courses are hereafter to be announced as "Courses upon Private Contagious Diseases."—*Ex.*

Professor Rokitansky.—This distinguished ornament of the Vienna Medical School has announced to the Professoren-Collegium that next year he will have attained his seventieth year. According to the regulations, he should then retire from his professorship and be placed on the pension list. It seems, how-

ever, that, seeing the great loss his retirement would inflict on the Vienna School—the founder of which he may be almost considered—an effort will be made to have his case regarded as an exceptional one, as long as his present good health and teaching power continues.—*Medical Times and Gazette.*

Dr. Nelaton, who has just died, lingered for several weeks, and suffered a good deal. He knew his condition during this time, and often repeated the remark, "Death is long in coming." The night before his death he said to his son, "Do as much good as you can in life—above all, without noise." The first phrase in his will is thus written: "I desire that my wife shall bring up my son to respect religion, honor, and work." His codicil expressly requested that no discourse should be pronounced over his tomb, and that the funeral should be as simple as possible. By taste, and somewhat through vanity, he avoided a display of instruments in his operations; he called it "surgery with a big orchestra." He had a small, dry hand, with pointed fingers and a long thumb; this hand was his principal instrument. His coolness equaled his dexterity. "When you have a correct diagnosis, you know where you are going," said he. One day, after homœopathy had secured a foothold in France, a doctor of that school, rubbing his hands with exultation, said to Nélaton: "You see, we are gaining ground every day." "Yes—in the cemeteries," added he. The Emperor said to him, when he cured his son in 1867, "I thank you, Monsieur Nélaton; you have saved my son." "I am glad of it, sire," was his answer, "for at the same time I have saved my reputation." Dupuytren, the greatest genius in the science of surgery of modern times, was his master. He became the surgeon of Louis Napoleon; extracted the ball from Garibaldi —the story of which is now legendary—and honors reached him from all sides. Clients came to him in such numbers that he was obliged to give up his professorship. Soon after he was made Senator and Grand Officer of the Legion of Honor; Boyer, Michael Lèvy, and Ricord being the only other physi-

cians who have received this honorable distinction. Science is indebted to him for some modifications in operating. He has given his name to a process for setting the shoulder, and another for the elbow, also to one called the *taille de Nelaton.* The rigors of the siege of Paris contributed to his death, and he finally succumbed to an organic disease of the heart from which he had long suffered.—*Paris Letter to N. Y. Tribune.*

EDITORIAL.

"Nullius addictus jurare in verba magistri."—Hor.

CLOSE OF VOLUME SIXTEEN.—The present number closes the sixteenth volume of this Journal. With no other capital than the unfailing support of the Medical Profession, during eight years of unparalleled pecuniary trial, which, like an ominous cloud, has darkened the field of every American enterprise, professional or secular, this Journal has been not only regularly published, but its size and embellishments have been constantly increased, and it is now about to enter, with the most auspicious prospects, upon the ninth year of its existence.

During the period mentioned, almost all the Southern journals have failed; and while for many years it seemed as though the medical journals of the Northern States were to escape pecuniary disaster, the money-pressure of the present year has caused several of those publications to strike their flags and go down in the storm.

Such works as the "Boston Gynæcological Journal," issued by the large publishing House of Campbell, and edited by Storer, of Boston; the "New York Psychological Journal," published by Appleton & Co., and edited by Prof. William A. Hammond, of New York; "The Archives of Scientific and Practical Medicine," published by the prosperous House of Lippincott & Co., and edited by C. E. Brown-Séquard and E. C. Seguin,

with a number of small journals, all published in the Northern and Northwestern States, have been compelled, from want of support, to withdraw from the field of journalism, and they now no longer exist. With such facts relative to the publications of the Northern and Southern States, it is with feelings of gratitude that the editor of the "Richmond and Louisville Medical Journal" is enabled to state to the large number of its generous supporters, that the subscription list of this Journal is larger than it has ever been before, having been increased materially during the panic of the last two months; and that its prospects for the future are better than at any time since the period of its first issue. The explanation of this gratifying fact is very simple; while almost all of the journals which have failed were published by wealthy publishing Houses, preferring to discontinue publication rather than incur any pecuniary risks, this Journal, relying implicitly upon the American Medical Profession as its capital, has been regularly continued under the unchanging and unchangeable conviction that this capital (the fidelity of the Profession) is impregnable.

In this connection it is proper to request that those of the subscribers who, from the "pressure of the times," have failed to discharge their obligations, will do so upon receipt of the present number. The implied contract on the part of the Journal for 1873 has not only been fully observed, but far more material than there was any obligation to furnish, has been furnished in each of the volumes of the present year. Under such circumstances there can be no hesitation in now requesting all indebted to the work to promptly transmit the respective amounts due, and it is hoped that all of those to whom this request is applicable, will do themselves and the Journal the justice of giving immediate attention to the request made. The amount due by each is so small that it is certainly in the power of each to transmit it without delay, while the failure of a number to do so, creates a sum most onerous for the Journal to bear.

When once the subscribers realize that the chief burden

which the Journal has to carry would be removed by their prompt action, yearly, in this matter, it is hard to believe that they would allow a little inconvenience to them, or in most cases a natural forgetfulness, to bring such additional work and anxiety upon the editor. When a subscriber knows that he is remiss in paying his subscription, it rarely occurs to him that he is one of many, and it is respectfully suggested here, that when by accident, forgetfulness, or misfortune, a subscriber is unable during the first months of the year to pay his annual dues, he should be candid enough with himself to feel not the slightest mortification when his indebtedness is brought to his attention. He must feel that the life and vitality of the Journal depends very largely upon the prompt pecuniary support of all upon the subscription list. By giving this, they will relieve the Journal office of the most tedious portion of the journal work, and thus free the editor's mind of such a portion of care as to easily enable him to improve the Journal in a variety of ways. For the first time in five years, as the subscribers will testify, public allusion is here made to the pecuniary indebtedness of the supporters of this work. The condition of the times not only justifies this, but also renders any failure to make such an allusion injudicious and improper. All of the subscribers of the Journal are requested to transmit the amounts due for the next year as early as possible. While those who have not already discharged their obligations for the present year, are requested to send the amounts due on the receipt of this number.

The friends of the Journal are particularly reminded that physicians subscribe or re-subscribe for medical journals at this period of the year. Each subscriber can, with ease, influence one or more of his friends to become a supporter of this work. Will he not use this influence for securing as many subscribers as possible, and send on the subscription orders sufficiently early to enable the new subscribers to obtain a copy of the Journal for January, 1874? To secure this number, orders should be sent immediately.

BREVITIES.

There are many different views expressed in regard to the comparative advantages of private and public asylums for the insane. Without entering into an analysis, at present impracticable, in regard these opinions, it is a pleasure to call attention to the Private Asylum at Burn-Bræ, near Kelleysville, Pennsylvania. This Institution is under the care of the owner and Superintendent, Dr. R. A. Given. It is but just to say, that nowhere in this country are the insane better cared for and more efficiently treated. The house, grounds, amusements provided, the rules, the free intermingling of the patients with the family of the Superintendent, the salubrity of the situation are all satisfactory to the most exacting. This Institution has been thoroughly remodeled and enlarged, and is now one of the best homes for the mentally unfortunate in this country. It is recommended without reserve to the Public.———There are many advertisements in this number which have never appeared before; the reader will be profited by examining them. The military schools of Virginia and Kentucky present their claims and advantages to the public. Lilly & Phelan, Druggists, of Evansville, Ind., introduce to the attention of physicians their Aromatic Fluid Pepsin, said by those who have tried it, to be efficient and satisfactory. Beckham & Walker, skilled and deserving Druggists of Louisville, are agents for this Pepsin, and will furnish specimens to all who wish to try the preparation. The book-list of Lindsay & Blakiston will be consulted with advantage; so also the advertisement of Wood & Co., Publishers, of New York. A new form of inhalers for the treatment of catarrh is advertised, and is worthy of attention. Many who desire to obtain a treatise on the ear will be interested in the advertisement of Dr. Williams, of St. Louis, whose work is published by the enterprising firm of Robert Clarke & Co., of Cincinnati, Ohio. References to other excellent Houses must be deferred until January.———Physicians of Kentucky are reminded that the State Legislature of Kentucky meets in December, and that if they wish to

secure a registration law, they should send their petitions, fully signed, and with the least possible delay, to Dr. S. A. Foss, of Lacona, Ky.

IN MEMORIAM.

At a called meeting of the Louisville Medico-Chirurgical Society, the following preamble and resolutions were unanimously adopted:

Whereas, It has pleased Almighty God, in his infinite wisdom, to remove from the scene of his labors Dr. G. W. Bayless, a member of this Society; therefore be it

Resolved, That by the death of Dr. Bayless, this Society has lost an honorrable, conscientious and respected member, the Medical Profession an earnest, diligent and prominent practitioner, and the community a high-toned, faithful and most valuable citizen.

Resolved, That a copy of these resolutions be recorded in the minute-book of this Society.

Resolved, That a copy of these resolutions be forwarded to the family of the deceased, with expressions of sincere sympathy.

Whereas, In the dispensation of an All-wise Providence it has pleased Almighty God to call from our midst Dr. W. F. Humphreys, a member of this Society; therefore be it

Resolved, That in the death of this our brother we have suffered the loss of a most worthy member, of a man whose merits as a physician commanded our respect; whose purity of character elicited our esteem, and whose habitual gentleness and courteousness of manner won our affection.

Resolved, That we tender our heartfelt sympathy to his wife, whose sore bereavement we can in some manner appreciate, and to all others to whom our departed friend was near and dear, and who will cherish him in affectionate memory.

Resolved, That copies of these resolutions be sent to the family of the deceased, and spread on the minute-book, and to the papers of our city for publication, and to the medical journals of the State.

SAM'L BRANDEIS, M. D., President.

J. L. GORDON, M. D., Secretary.

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